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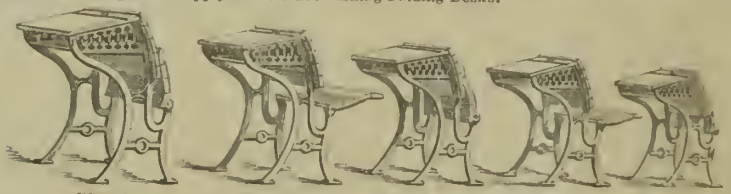

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THE

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THE FALLACY OF TEACHING SPELLING.

BY CHARLES C. NOTT.

There is a parrot in Quebec which can recite, with force and emphasis, a passage from Shakspeare of (if I remember aright) about twenty lines. If the gentleman who has bestowed on this bird no inconsiderable share of his own life, had changed the exercise to that of oral spelling, I am convinced that the parrot would now be able to take a creditable part in a spelling match, and indeed, if the words "given out" chanced to be within the limits of his vocabulary, would be able to "spell down" the entire class. Furthermore, the process by which the parrot would spell would be precisely the process by which the best "spellers" spell in a spelling match—viz.: by the exercise of the memory and voice, and the bird's performance would be just as *intellectual* as that of any other member of the class. If some of our learned professors and members of the Cabinet who have participated in recent spelling matches, had taken off their coats and renewed in the open air some of their boyhoods' sports, they would have been quite as intellectually engaged, with the advantage of coming out of the contest somewhat strengthened in body and invigorated in mind. The utility of the spelling match may be summed up in saying that it affords some occupation for the idle, and amusement for the weary;

that it rubs a little rust off the memory, and teaches a great many lookers on how many words there are which they never heard of before. On the other side of the account, it should be charged with wasting a great deal of time, that might be better employed, with misleading people into the belief that they are acquiring knowledge, and with bringing into our spoken language bad Greek, Latin and French, and driving out an equal quantity of good English. But, considerd from the educational point of view, it appears an evil which should be exposed, ridiculed and stamped out. For the last twenty years the country has been growing toward some rational system for teaching children to spell, and now this public spelling match infatuation comes to upset everything that has been built, and to cause everything that has been gained to recede into the former mire. If the folly continue for three years we shall have nearly every school in the country devoting its whole power to the important business of "getting up" scholars for these exciting conflicts, for which it may be said that as a means of education they are directly worthless, and indirectly pernicious.

The teaching of spelling, in the higher sense of the term, involves the training of the eye, the ear, the understanding, and the memory. I put the memory last, where it ought to be, and where it will take care of itself. As to the eye, its work is to acquire not merely the written or printed characters which we call the alphabet, but the written or printed forms of the words which make up the practical part of our language. As to the ear, it must be trained phonetically to distinguish those sounds and quantities of letters which the tongue does not express—to *internally* register a difference between diligence and dilligence, or between seperate or separate. As to the understanding, it must be cultivated by the knowledge (1) of the formation of English words according to the hidden laws of our language, (2) of their meaning and use, (3) of their history, derivation or etymology. The arbitrary memorizing of the letters—the mere stringing together on the tongue, of the component parts of a word, commonly called "oral spelling," should be reserved for the education of parrots.

Any thinking person who consents to this will find, if he push his reflections a step farther, that real education in spell-

ing cannot be by isolated lessons—that is, by picking out words and "learning to spell them," but that it must be by a comprehensive system. In such a system there will be, indeed, no teaching of spelling in the sense of spelling lessons. The child will, unconsciously, grow into a mastery of spelling as it grows into a knowledge of words. The great bugbear of bad spelling, which makes intelligent and educated persons afraid of the commonest words of their own language, will substantially disappear. But it is not to be understood by this that a man will be able to spell a word which he knows nothing about, nor that he will be able to excel in the rapid artificial assorting of letters called a spelling match, nor that a system can be devised which will dispose of the eccentricities that are incorporated into our dictionaries as English, though in form neither English, or Greek, or Latin, nor of any known language. All that can be promised is that men will spell correctly, when they write, the great body of our English words.

And here let any philosophical mind, which is trying to comprehend the difficulties of this spelling problem, inquire whether the ordinary, complaining American has ever been taught to spell. For my own part, I am well nigh ready to affirm that our, practically, exclusive system of oral spelling has never taught any one anything, and that those persons who now spell correctly would spell just as well if all the "spelling lessons" had been left out of their schooling.

In the first place, I perceive that the oral system consists in this and nothing more—in selecting words, at first those which are easy, and afterwards those which are difficult; in repeating their letters over and over until the proper order of them is fixed arbitrarily in the mind; and then in *remembering*. Now, such a system cannot enable the learner to walk an inch beyond the point at which it stops. When the man has to spell a word outside of the spelling book vocabulary of his boyhood, necessarily he is as much at a loss as the parrot would be when his list is "spelled through," *unless the man has unconsciously learned to spell the other words in some other way.*

In the next place, we have, in round numbers, 100,000 words which the educated man is expected to spell correctly; and in this business of spelling derivatives count as words. For if I spell "business" wrong, it will not save me from reproach that

I can spell "busy" aright; or if I incorrectly write "saleable," it will not justify me because I can correctly write "sale;" or if I leave out one m from "inflammable," no one will believe that I know how to spell the word when I show that I can properly put together all the letters of "inflame." To take more "regular" illustrations, we spell "entering" with a single r, and "referring" with a double r, and "referable" again with the single. To the unhappy child in the ordinary costly American school building, "entering" and "referring" and "referable" are three distinct words, and just as "hard to spell" as though the starting points "enter" and "refer" did not exist.

Now, with this immense mass of words and derivatives of the most irregular language of the civilized world to be mastered, the spelling book (which measures the extent of oral spelling) picks out a few hundred to be drilled into the memory, and tells us to trust to luck or to our own unconscious observation for the vast remainder. Compare the largest spelling book with the unabridged dictionary, and a glance discloses how little oral spelling has contributed to the knowledge of English words which an educated man possesses. In the third place, this system which does so little, is a system to which no one ever resorts, even for the little which it gave, excepting perhaps, two classes of persons, who, unlike the mass of mankind, do use oral spelling. They are first, school teachers, who have to teach, and consequently to listen to the stringing together of letters by the tongue; and second, printers, who have in a like mechanical way to gather together and put in order the alphabetical parts of a word.

But here, in fairness, I must admit that oral spelling *has* been of some service to us, indirectly, though in a bungling and imperfect way, just as the giving of a pair of crutches to a child will never teach him to walk and run, but may, nevertheless, give him some hints of equipoise and hardness of matter. Among these benefits I note, 1st, that it familiarizes the little learner with the alphabet; 2d, that it trains the eye to distinguish readily the different letters of a word, for the untrained eye, much oftener than is suspected, fails to fasten upon one of a mass of small outlined objects, but jumbles them together and transposes them sadly, and then has its delinquincies charged

to carelessness and stupidity; 3d, oral spelling also gives the child some indistinct ideas of the sounds of letters, as distinguished from their names, for when he has gone through the column, *hat, bat, cat,* and the column, *hate, late, mate,* and the column, *cart, part, tart,* and the column, *call, pall, fall,* he has probably acquired the fact that *a* has four sounds or more, and has laid away unconsciously, in his little mind, some dim analogies wherewith to wrestle with harder words.

I must also admit that the old fashioned *school* spelling match did do a great deal for the cause; for the overladen American school teacher had to devise means whereby her pupils would voluntarily carry a part of the load, and the spelling match in school brought in animation and zeal, and set every child to using its own wits without being ordered to study this and recite that. But it also did much more than this for it set children to looking for "hard words" everywhere, and to teaching themselves to spell as they studied their geography or history, and to watching the forms of words as they went over their school readers. The oral explosion of the spelling match was intrinsically nothing; but the activity of eye and mind and memory, that were continually at work gathering and garnering ammunition for the expected fray, was the most effective of teachers.

And this brings us to what, logically, should be the primary question in our inquiry, viz.: What do we mean by "spelling," or by "good spelling," or by saying that "A or B never makes mistakes in spelling?" Spelling, in its practical uses in life, consists of one or the other of two distinct processes, and oral spelling is not one of them; for if a man in his everyday life were to jabber aloud the letters of every word he sees, or were to lisp them to himself as he writes them, we should set him down speedily as an illiterate person or an idiot. The two processes by which our spelling practically is done and tested are: 1st. The ordinary putting together of letters into words, which every person does when he takes a pen in his hand; and, 2d, the detection of bad spelling in writing or in print, which, more restrictedly, is the work of the author and proof reader. In neither of these processes does one use oral spelling. A will write a book with an average of less than one misspelt word to the page—*i. e*, with an average of less than one error

in four hundred words, and never give his spelling a conscious thought from one end of his manuscript to the other. A proof reader will cast an instantaneous glance along a line of words and feel assured that all are spelt aright, without having verified a single word by the process of taking it to pieces, letter by letter. Oral spelling, when analyzed, may be defined to be "audible, conscious spelling," but in the processes that we daily employ—that is, in writing and reading—our spelling is inaudible and unconscious.

The processes of the human mind, whereby men are able to carry on prolonged action, if not unconsciously, still by an indirect or unconscious volition, belong to another field of philosophical inquiry. But the existence of such processes we have now to deal with as a fact and a faculty. By what process does my *pen* fly along the paper, tracing all the distinct forms of the alphabet and correctly grouping those forms into what are called words, when my *mind* does not give this constructive work a thought, and is at most (so far as I can discover) but dimly conscious that the work is going on, and, moreover, has been intent all the time on the argument, or description, or narrative on which I may be engaged? We are not agreed upon the explanation, but we all know the fact. The man whose *feet* find their way along the uncertain surface of the pavement while *he* is absorbed in a discussion with his companion; the girl whose *fingers* find the keys of the piano while *she* is carried away by the sounds which the instrument emits, are illustrations of this power within. Assuredly we possess some mental machinery, which, on being willed to go, runs along of itself. And this undefinable apparatus is not only susceptible of cultivation, but perhaps, more than any faculty which we possess, depends upon cultivation. If we did not daily cultivate it in the art of walking, we should not be able to walk upon an uneven surface without pausing at every step to measure the distance and scan the ground. Furthermore, this self-acting, internal instrument, when it has once learnt its work, will ordinarily do it more accurately, as well as more rapidly, than our minds can in the full possession of their conscious faculties. Thus the girl will tell you that she could not play that piece half so fast if she were to think of the keys that her fingers must select. Thus your own leg will know

whether to shorten or lengthen its strides so as to bring you to the curbstone of the gutter, though your mind, if called upon, could not estimate the distance in feet and inches, nor even give a good guess at the number of strides you must take to reach the point. Thus, too, in this business of spelling, your unconscious pens will spell words correctly that we cannot spell if called upon, though the entire mind be given to the task, in the full possession of all its conscious powers.

And it is for this reason in spelling that he who hesitates is lost. A few persons there are in whom keen observation and retentive memory are so well developed that they can ordinarily spell any word which they have ever read or written. Such persons are indeed "natural spellers;" the art causes them no trouble, and they do not trouble themselves about orthographical reform. But the mass of reading and writing people possess no such arbitrary power, and their hope of doing well lies in that association, or habit, or practice, which is blended with the mechanical operation of writing. Success for them will be found in *doing* and not in doubting. If such a doubter carries a pocket dictionary with him and consults it *as he writes*, he may consider himself as among the lost. For him oral spelling was probably the seed of his miseries, inasmuch as it set him to doing that which not one person in ten thousand is competent to do—that is, arbitrarily remember. I know a gentleman who has carried his doubts and his dictionary so incessantly with him that he is now becoming unable, half the time, to find the word which is torturing him. It is a positive fact that he has been detected in directing a letter to Rochester, spelt "Wrotchester." The facts and analogies and exceptions of the language have become so intermingled in his mind that they form a direful jumble, in which "wrotch" was undistinguishable from "wrath" or "wright." In practice he has been steadily undoing the early *habit of writing* words, and has attempted to substitute for it the arbitrary *process of spelling them*. It may be true that his habit of writing was imperfect—*i. e.*, that he never spelt well, but his object should have been to correct the habit and not to undo it. In short, all men who desire to "spell well," merely that they may write correctly, had better go to the Greek for guidance, and learn a secret rule from the primitive meaning of a word which is this: The surest way to master ORTHOGRAPHY is *write right*.

NARRATIVE COMPOSITION.

[The following extract taken from the Royal Reader, No. 6 (London: T. Nelson & Son), shows how composition may be taught in connection with reading:]

The writing of simple narrative ought to be practiced in every school. One of the latest Government progamme specifies, as an exercise for the highest class in elementary schools, "Writing from memory the substance of a short story or narrative read out twice" to the scholars. The questions at the end of each lesson in this book, as in the other books of the series, form a most convenient means of practicing narrative composition, and of acquiring skill and readiness in the exercise. In preparing the questions, this use of them has been kept steadily in view; and it will be found that the answers to each set of questions form a good consecutive abstract of the lesson. This applies not only to the ordinary reading lessons, but also to those on Great Inventions and on Physical Geography.

The first difficulty which young people meet with in attempting composition is in knowing "how to begin;" the second is in knowing "what to say next." Now the advantages of the question-method are, that it shows the scholar both how to begin, and how to proceed; and that it at the same time requires the construction of every sentence to be the scholar's own.

The mode of procedure is extremely simple. The exercise consists of two:—

1. The answer to every question is written down in the form of a complete sentence.

2. Additional circumstances are introduced when necessary to make the narrative consecutive, and the composition smooth.

To illustrate the process, we here show how the questions on the preceding lesson may be made the basis of a simple narrative.

FIRST STEP—SIMPLE ANSWERS TO THE QUESTIONS.

1. Gibraltar fell into the hands of the English in 1704, during the War of the Spanish Succession. Sir George Rooke,

learning that it was poorly garrisoned, suddenly attacked and captured it.

2. The Spaniards made their last and most determined effort to recover it in 1779, during the American War of Independence.

3. The siege lasted three years.

4. The garrison was twice succoured—once by Darby, once by Rodney.

5. Early in 1781, there was a terrific bombardment by the besiegers. Towards the end of that year the garrison made a midnight sortie, and destroyed the enemy's works.

6. The final effort to take the place was made in 1782.

7. The Duke de Crillon took the command of the besiegers.

8. He had under him 30,000 of the best troops of France and Spain.

9. The combined fleets numbered 47 sail of the line, with 10 great floating batteries.

10. The besieged numbered only 7,000 men with 80 guns.

11. The decisive attack commenced on the morning of the 13th of September.

12. The besiegers had placed most reliance on their 10 battering-ships.

13. The great strength of these ships was proved by the fact that the heaviest shells often rebounded from their tops.

14. They were at length destroyed by red-hot balls, which set them on fire.

15. The advance of Captain Curtis with his gun-boats compelled the Spaniards to abandon theirs.

16. Curtis and his men endeavoured to rescue their enemies from drowning—Curtis risking his own life to save those of his fellow-creatures.

17. Admiral Howe brought fresh troops and provisions from England to the garrison.

18. The blockade did not finally terminate till the peace (January 20, 1783); but after the failure of the bombardment, it was little more than a form.

SECOND STEP—COMPLETED NARRATIVE.

[The simple answers are here repeated in Roman type, and the additions *in Italics.*]

Gibraltar fell into the hands of the English in 1704, during

the War of the Spanish Succession. Sir George Rooke, *while watching the French and Spanish fleets in the Mediterranean*, learned that it was poorly garrisoned, and suddenly attacked and captured it. *After many vain attempts to retake it*, the Spaniards made their last and most determined effort to recover it in 1779, during the American War of Independence.

The siege lasted three years, *in the course of which* the garrison was twice succoured—once by Darby, once by Rodney.

Early in 1781 there was a terrific bombardment by the besiegers; *but it did little damage, and produced no result*. Towards the end of that year the garrison made a midnight sortie, and *completely* destroyed the enemy's works. *At the same time their floating batteries were set on fire by red-hot balls. That one night cost the Spaniards two millions sterling!*

The final effort to take the place was made in 1782, *when* the Duke de Crillon, *who had lately distinguished himself by capturing Minorca*, took the command of the besiegers. He had under him 30,000 of the best troops of France and Spain. The combined fleets numbered 47 sail of the line, with 10 great floating batteries. The besieged numbered only 7,000 men, with 80 guns.

The decisive attack commenced on the morning of the 13th of September. The ten battering-ships, on which the besiegers placed most reliance, *bore down in admirable order to their several stations*. The great strength of these ships was proved by the fact that the heaviest shells often rebounded from their tops, *and thirty-two pound shot made no visible impression on their hulls*. At length, *however*, the red-hot balls from the garrison set them on fire, *and the whole of the enemy's line was thrown into confusion*. The advance of Captain Curtis with his gun-boats compelled the Spaniards to abandon theirs. *The English then showed themselves to be as humane as they were courageous*. Curtis and his men endeavored to rescue their enemies from drowning; Curtis, *on more than one occasion*, risking his own life to save those of his fellow-creatures.

The Spaniards having been thus utterly defeated, Admiral Howe brought fresh troops and provisions from England to the garrison. The blockade did not finally terminate till the peace (January 20, 1783); but after the failure of the bombardment it was little more than a form.

HOW A FLY WALKS ON THE CEILING.

[At a meeting of the *San Francisco Miscroscopical Society*, held September 9th, 1875, Mr. C. Mason Kinne read a paper which deserves the attention of all our readers, and which he stated was written by request of members of the Society in order to bring the matter before the public. There are many popular errors which need correcting and when an untruth is proven to be such, the fact should be made as public as possible. Many of the mile-stones of civilization are but the finger-posts of advances made from the legends and marvels of the past, and Mr. Kinne seems to be of the opinion that it is about time to stamp out what was shown in 1816 to be a palpable mistake, by the Mr. Blackwell he mentions, and to aid the matter his paper was written.]

If any apology is needed for bringing up a subject here where all know the truth in the matter, the prevalent opinion as to the method in which most insects climb vertical surfaces or walk on inverted ones, and the fact that books for the instruction of our children repeat the theory of atmospheric pressure, are certainly sufficient.

My attention was called a short time since, by one of my children, to a chapter in McGuffey's Fourth Reader, used in the public schools in this city, which, beside its legitimate duties as a reading lesson, is intended to impart in an interesting manner some entomological ideas which are not borne out by the facts in the case. I well recollect the delight with which I read the same article when a boy, and it required the scientific literature of later years, and personal observation with the penetrating and powerful eye of the microscope to teach me the truth, yet I should have supposed that the compiler of any work professing to teach a grain of science would have seen to it, that they did not gather up and promulgate the hasty and erroneous notions of others that have long since been rejected.

Years ago, Mr. Blackwell's simple, yet conclusive experiment of placing a number of flies in the glass receiver of an air-pump, exhausting the air and yet witnessing them perambulating up the sides and along the dome, has been often repeated, and of itself, explodes the theory of sucking disks. Bearing in mind the truth of the saying, that "seeing is believing," I have recently taken the trouble to test the truth of Mr. Blackwell's experiment, through the kindness of Mr. John Roach of this city, who placed his instruments at my disposal

and assisted in the trial. Exhausting the air so that but half an inch of mercury was left in the tube, the flies placed in the receiver were seen walking about at the top of the chamber as well as before the air was withdrawn, though if they attempted to take to the wing they would drop like bits of lead. Before the air was so entirely rarified, their endeavors to fly from the bottom resulted in little hops and jumps that were quite amusing. After a few moments the insects became insensible and their bodies swollen to the point of bursting, from internal pressure, while an influx of air would revive them for a repetition of the experiment, which was continued long enough to prove to a certainty that, while the little prisoners could not fly about in the receiver, without the air, they could walk as sure-footed as ever without the pressure incident thereto.

The microscope, in the hands of intelligent observers, soon revealed the apparatus with which the fly was enabled to defy all the laws of physics, and as all present may not have made a personal examination of the matter, feeling to rely upon the statements of Blackwell, Lowne, Hooke, Gosse and others, I have placed the foot of a common house fly in the compressor and a living fly in the live box, with its feet toward the cover.

Examining them with moderately high powers, we see two membranous cushions or palms (*pulvilli*) between the hooks on each, covered with minute hairs, each terminating in bulbous extremities, from which exudes a viscid, tenacious fluid. As the fly endeavors to free itself from its close quarters, you will notice the tenacity with which each individual filament clings to the glass cover, and that they are bent backward along the line of direction in which the foot is being slowly withdrawn, much in the manner that the bristles of a brush are bent when it is drawn along some hard surface. When the foot is suddenly lifted, you may see a dotted pattern of the pulvilli marked on the glass in the fluid left behind from the extremity of each hairy filament. From the results of a series of varied and long continued experiments, all of which point to the same end, it is now conceded that these hundreds of microscopic points, clothed as they are with a glutinous substance poured out in minute quantities, are the organs of adhesion. When all the hairs have the strain on them they suffice to support the insect, but each row may be removed separately, and it is

done by the manner in which the tarsus is raised. The two little hooks or claws aid, no doubt very materially, in traversing surfaces that are apparently quite smooth, by grasping irregularities we cannot notice; and by drawing a fly backward upon the hand, we preceive by the senses of both seeing and feeling, that they take hold quite effectively.

The sucker-like disks on the males of a genus of insects known as Dytiscus, of which it has been held with even a greater appearance of truth that their adhesive power is due to atmospheric pressure, Mr. Lowne has successfully shown are nothing more than remarkably-developed pulvilli, and from which exudes a fluid similar to that secreted by the fly and other insects, but in much larger quantities.

It is hardly worth while to say more on the subject, as it would be going over a mass of details which are familiar to you all; but with the fact so patent to every one that the ideas absorbed by the youthful mind regarding the science of common things are more lasting than any other, and feeling that it were better not to teach a proven falsity to the thousands of our school children, it seems to me that some steps should be taken to so correct this popular error that James, William and Harriet of to-day may not be confused with untruths, taught them but to be unlearned in later years.

A CURE FOR FRIVOLITY.

We constantly hear, both from the ignorant patrons of our schools, and from the official superintendents of public instruction, complaints of the frivolity and inefficiency of the young women who enter the educational field as teachers. And, as might be expected, the complaint is extended to the case of the "graduates" who issue from the schools mismanaged by these frivolous teachers. We will not undertake to decide authoritatively, whether the charge so frequently, we might say generally, brought against the class of teachers above referred to, is well founded or not; we are inclined to think it is exaggerated, not that we have not met with dozens of female as well as male teachers, both in our public and private schools, who had nei-

ther any natural vocation nor any generous preparation for their calling; yet, on the other hand, we are fully convinced that neglect of duty on the part of parents, and their decided, even if only tacit, encouragement of insubordination among their children, plays quite as important a part in the matter as the alleged frivolity, incompetency and inefficiency of the teachers. This is the very least, we think, that any truly impartial and dispassionate observer would say.

And it appears that our own country is not the only one that is suffering from these causes. We give a few paragraphs from a recent work, by the celebrated Charles Kingsley, Canon of Westminster, which are most pertinent to the question at present under consideration:

Mothers complain to me that girls are apt to be—not intentionally untruthful—but exaggerative, prejudiced, incorrect in repeating a conversation or describing an event; and from this fault arise, as must be expected, misunderstandings, quarrels, rumors, slanders, scandals, and what not!

Now for this waste of words there is but one cure; and if I be told that it is a natural fault of women; that they cannot take the calm, judicial view of matters which men boast, and often boast most wrongly, that they can take; that under the influence of hope, fear, delicate antipathy, honest moral indignation, they will let their eyes and ears be governed by their feelings; and see and hear only what they wish to see and hear; I answer that it is not for me, as a man, to start such a theory; but that if it be true, it is an additional argument for some education which will correct this supposed natural defect. And I say deliberately that there is but one sort of education which will correct it; one which will teach young women to observe facts accurately, judge them calmly, and describe them carefully, without adding or distorting: and that is, some training in natural science.

I beg you not to be startled; but if you are, then test the truth of my theory by playing to-night at the game called "Russian Scandal;" in which a story, repeated in secret by one player to the other, comes out at the end of the game, owing to the inaccurate and—forgive me, if I say it—uneducated brains through which it has passed, utterly unlike the original; not only ludicrously maimed and distorted, but often with the

most fantastic additions of events, details, names, dates, places, which each player will aver that he received from the player before him.

After contrasting this intellectual looseness with the accuracy with which any *trained* mind in the company will repeat the same story, the sagacious Canon proceeds to say:

I verily believe that any young lady who would employ some of her leisure time in collecting wild flowers, carefully examining them, verifying them, and arranging them; or who would, in her summer trip to the sea-coast, do the same by the common objects of the shore, instead of wasting her holiday, as one sees hundreds doing, in lounging on benches on the esplanade, reading worthless novels, and criticising dresses—that such a young lady, I say, would not only open her own mind to a world of wonder, beauty and wisdom, which if it did not make her a more reverent and pious soul, she cannot be the woman which I take for granted she is; but would also save her from the habit—I had almost said the necessity—of gossip: because she would have things to think of and not merely persons; facts instead of fancies; while she would acquire something of accuracy, of patience, of methodical observation and judgment, which would stand her in good stead in the events of daily life, and increase her power of bridling her tongue and her imagination.

We feel assured that no reader who has followed us through these brief extracts from Canon Kingsley's book ("Health and Education,") can have failed to be impressed by the admirable good sense which dictated them. Unfortunately, however, for the cause of rational education in Pennsylvania, the kind of discipline which that writer recommends as the only cure for the universal frivolity which every truthful person laments, is extremely rare among us, few, even of our most pretentious schools, whether public or private, making anything more than a pretense of teaching natural science. The consequences with us are just such as Canon Kingsley declares have followed this neglect in England.

As illustrating this fact, we will repeat an anecdote related a few years ago by one of the most intellectual and accomplished women of America, then resident in Paris. She had, the evening before, met in society, a young lady from Tobolsk,

in Siberia, who had acquired a taste for scientific pursuits, and had come to spend a winter in that city of cosmopolites. The first inquiry of this young Siberian on entering the society to which she had looked forward with so much pleasure was, whether she could obtain permission to be present at a *seance* of the French Academy, where she might see and hear Arago and other famous *savants* of the French capital. Our countrywoman who tells the story adds, with a quiet sarcasm, "The first inquiry of a young lady of equal social position, from Boston, New York or Philadelphia, would have been concerning the address of the court milliner."—*Pennsylvania School Journal.*

SUCCESS IN TEACHING.

Every teacher desires success. It can be had. Will you try to deserve it? If so, decide in your own mind what success is, then how to seek it, and lastly work for it. Success is obtaining the right results. In teaching it consists in making the pupils know—in leading them to love study, in training them to right methods of study, in forming right habits, in cultivating their tastes and talents judiciously.

To obtain success one needs knowledge and skill. He needs to know the right methods of work, and to have skill in the same.

Avoid all common errors, make a list of such errors as you know other teachers have, make a list of your own, and avoid them all. Seek perfection. The requisites of a good school are: a good school-house, a good teacher, and good scholars.

You can keep your house neat, quiet and well ventilated. The house has an influence on the school; keep the air pure and the rooms neat.

You can be a good teacher. Success depends not upon one great effort, but upon regular, patient, and faithful work. Keep at it—"with time and patience the mulberry-leaf becomes satin."

Go to school in season. Call school at the right time. Have the pupils come in promptly and quietly. Write out your order of exercises. Arrange your programme as well as you can.

Carry it out to the minute. Consider it as necessary for you to follow it as for the children to follow it. Provide enough work for every pupil. Suppress whispering. Secure the co-operation of your pupils. Lead them to say that it is for their interest to have good order and a good school. Require hard study from the pupils. Lead them to love study. Give short lessons. Assign them so plainly that none of them may mistake their lessons. Have the lessons well studied. Require clearness, promptness, and accuracy in recitation. A little well known is of great value. Let not "how much" but "how well," be your motto. Do not assist the pupils much at recitation. Cultivate their self reliance. Self-help is their best help. Do not let them help each other. Excite an interest in study. Be enthusiastic yourself, and you will make your pupils enthusiastic. Encourage those who need encouragement. Review often. Talk but little. Be quiet yourself. Speak kindly and mildly. Be firm. If you love the pupils, they will love you. Keep good order. Government is the main thing. Have order and good order, whatever you lack.

A good teacher can become better. Be not satisfied with your present skill. Seek to improve yourself as a teacher. Study hard yourself, and study daily. Try to learn more each day than you learned the day before. Have a fixed time for your own study. Use that in study. If you do not love learning, why should your pupils.

Talk with parents about their children. Many parents can give you useful hints about teaching. Urge the parents to send their children to school regularly, and to talk to them about their studies. Mark down your errors, their causes and effects—shun them in future.

Keep a list of your plans, your difficulties and your methods of meeting them. Look at the list often, and see if you are carrying out your plans.

Read up on teaching. Read for improvement. Adopt new methods with caution. Hold fast the good, reach after the better. See if you can give a reason for your methods of teaching. Write. Make a list of the marks of a good teacher.

Attempt to make these your own. Be not satisfied with doing as well as others—surpass them. Surpass yourself daily.

Study and practice these directions. Failure will be impossible.—*American Journal of Education.*

KINDERGARTEN TOYS, AND HOW TO USE THEM.

[A practical explanation of the first Six Gifts of Frœbel's Kindergarten, by HEINRICH HOFFMAN, Pupil of FIEDRICH FRŒBEL.]

FIRST GIFT.

This consists of six worsted balls, in the colors of the rainbow, namely—three primary colors: red, blue, yellow—and three mixed: green, violet, orange.

Conversational Lessons—On the round shape. Compare a ring, an egg, a pencil, thimble, saucer, spoon, etc. What other things can you think of that are round? Name things that are round like the ball, others that are like the pencil, the thimble, the saucer, etc.

On Colors.—Name the six colors of the balls. Show something that is brown, black, white, etc. What things are green, red, blue—first, in nature; second, in art? What is understood by painting, dyeing, coloring, etc ? What is the use of signal-lamps?—of the colored lights used at night on horse cars, etc. A word against colored sweetmeats may also be useful.

Manual Exercises with the Ball.—Holding it firm and safe. Resting the ball motionless in the open palm of the hand, even when arm and hand are gently moved sideways, or up and down. Or, whilst the ball rests in the two open hands, like in a basin, or nest, the children may sing or say:

The little { doll lies in } its bed,
{ ball lies in } my hand so quiet and so still,
I'll gently rock it till it sleeps, and nurse it well, I will.

Rhythm and motion must be in strict accordance; and continuing in a subdued voice:

Hush ! hush !
Hush ! hush ! let it sleep ! gently sleep, hush ! hush !

The child still swings gently his arms. Suddenly the ball moves, rolls about, in the open hands:

The ball is fond of moving;
It likes to be a-roving, moving, roving, moving, roving.

The lowering one hand whilst the other is slightly raised, the child allows the ball to roll over the fingers, keeping exact time with the rhythm of the words.

Gradually the ball grows more independent of the close rasp of the fingers. It rolls over the fingers into the lower hand:

Dew-drops from the leaflets fall;
From my hands the little ball.

This rolling about of the ball in the open hands forms an excellent gymnastic exercise; the whole body of the child is in motion. The movement resembles the sifting of grain:

Sift the grain from dust and grit,
Pure must be the bread we eat.

Or, the ball passes from child to child, facing each other, first at short, then at greater distances; or rebounds from the wall, describing an arch in all its variations, from the slightly curved, almost horizontal line, through the oval, to the perpendicular. Nothing must escape the observant eyes of the children. Thus attention is drawn to the double motion of the ball, the progressive and the rotary, when it rises or falls:

In its rise and in its fall
Round and round spins our ball.

What is the cause of this rotation? The rolling over the fingers, when the ball leaves the hand; prove this by sending the ball up from the flat hand. To practice strict attention, as well as knowledge of the colors, let the balls be distributed according to the colors, so that the same color appears in regular distances; the teacher names things, which bear the one color, or the other; and at the word *green*, or *blue*, or, the mere description of the color, the *proper* balls rise in the air simultaneously.

Strict attention is further exercised by the following: The children sit face to face at the table, A opposite to B; C to D, etc. A rolls a ball across the table to C, C to E, E to G, whilst B sends a second ball to D, etc. More and more balls are gradually introduced, and the utmost quickness, vigilance, and attention are called into play. A few words sung to it, will materially assist in regulating every movement, and in preventing confusion:

Zig, zag, zig, zag, runs the little ball,
Tic, tac, tic, tac, it sounds from the wall.

Nor must the elasticity of the ball be overlooked.

The ball on the string forms another series of exercises. By means of a bodkin, one of the colored strings is attached to the ball. In swinging it to and fro, the child will compare it to the swinging of the pendlum of a clock:

To and fro, to and fro,
That my ball can nicely do;
Straight and steady must it go,
Not too fast, and not too slow;
Here and there, and front and back,
Sometimes *tic*, and sometimes *tac*.

Little clock, we want to know,
Is it time to school to go?
For sleeping, for rising, for dinner, for tea,
For working, for playing, a time there must be.

Sluggards always are too late,
Sluggishness all people hate.
Little clock, pray do go right,
Mark the hours in their flight.
Tic, tac, tic, tac.

Or it suggests the chiming of the bell:

Bell high from the steeple,
Calls to church the people.

This is imitated by the children with appropriate swinging of the body. When the string is held at the end, the swinging is slow, but when nearer to the ball, it increases in speed. Then follows the circular swinging, either in the air, or on the table, or floor. The latter will show a double motion, the progressive and the revolving. The six strings, each holding a ball, may also be twisted together, until they form one closely twisted string. Held at the extremity, they will unwind in a quick, rotary motion, and exhibit a beautiful play of colors. The two sticks may be inserted in the lid of the box, the perforated square piece of wood stuck across on the top of the sticks, thus forming a beam for swinging. Draw a string through one of the holes, and the ball will swing fast or slowly, according to the length allowed.

SECOND GIFT.

This consists of a wooden ball, a cylinder, and a cube, with holes and eyelets in each; also some strings and a stick. Thorough acquaintance with the properties, peculiarities, and relations to each other, of the ball, the cylinder, and the cube, by a series of practical illustrations, is the main object of this collection. Now the soft colored ball, harmless to the child, and involving no danger to surrounding objects, is substituted by one which conveys to the child's mind more clearly the idea of smoothness, weight, hardness, and sound.

The following lessons and exercises throughout this treatise comprises the entire range of infant life, from babyhood to the age of six or seven. It must be left to the judgment of mothers and teachers to select, adapt, and alter, for each individual age and capacity, what they think best.

In order to fully understand any object, compare it with the opposite of its own kind; thus the ball and the cube are opposites, the minute comparison of which will illustrate the peculiar qualities of each, far better than the examination of one alone can. Between the two, the cylinder stands as medium, combining in itself the roundness of the ball, and the edges and surfaces of the cube. If we fancy the edges removed, the ball is reproduced; if the roundness be squared and leveled, the cube will be seen.

Draw comparison, first, between the soft and the wooden ball; second, between the ball and the cylinder. How can you place several cylinders on one another? Try to do the same with the balls. Roll the cylinder, roll the ball. What difference is there in their progressive motions? Can you roll the cylinder on the ends? Put the cylinder upright on a piece of paper—run a pencil round the edge—try the same with a ball. How can you pile ball, cylinder, and cube, on one another? Try it another way. Is there a third? Explain the use of the cylinder in the garden, the kitchen, the street, the mangle, in machinery in general; of the ball in its various materials and adaptations. How many surfaces has the ball, how many the cylinder?

Most of the games, as described in the First Gift, can be repeated with the wooden ball, only let it be understood that, for the purpose of throwing, the soft ball only is to be used. An excellent exercise in developing a sense for rhythm and music, is afforded by the wooden ball. A child marks the fall of the long syllables, in the singing or reciting of verses, by gently knocking the ball against a hard substance. Whilst, for instance, the children drop the ball from one hand into the other, one child marks the time—

> Dew-drops from the leaflets fall,
> From my hand the little ball.

What can the ball do? It can lie quiet, can roll, fall, jump, swing, give a knock, rise, spin round, come and go; and, on a string, it can swing, dance about, describe a circle on the floor, whirl round, imitate the pendulum of a clock, show the perpendicular line, etc. In all these exercises, use as many rhymes as you can think of. They assist and exercise memory, give a livelier interest, and draw greater attention to the manipulations; they cultivate a taste for verse and musical rhythm. The following exercises need no further explanations.

> Round the edge I run in a plate, right across when on a slate;
> Move your hands and bid me go; strict obedience will I show.
> Let me rest, or run, or roll; make a bell of me to toll;
> Let me swing, or dance, or fall; always I am yours, the ball.

Under all circumstances the ball is the same; not so the cylinder. Put a string through the brass eyelet in the edge, bring both ends together, twirl the double string well, by turning the cylinder round and round. When the string is firm, draw gently the ends apart, and unwind it. The cylinder will quickly revolve, and show a totally different body When the string is nearly unwound, join the ends quickly again, and the revolving force of the cylinder will retwirl it, so that this play may be continued for any length of time. The same experience will be made when the string is applied to either of the two remaining eyelets; so that the cylinder, in its rapid revo-

lutions, will show three different forms, all more or less illustrating its relations to the ball.

The child is born a poet, and his little world is a paradise of poetry and imagination. He embodies in imagination, with life and beauty and graceful art, the simplest and rudest forms, just as some nations, like the ancient Egyptians and Persians, used to do in their infancy. The ball, or cube, or cylinder, on a string, will be to him a better representation of a cow, a dog, a sheep, and of a hundred other things, than the most elaborate wood carvings in a toy-store, because they are the creations of his own genius or imagination.

The form of the cylinder will call in mind many objects which resemble it: a pile of coins, a cucumber, a sausage, etc.

Examine the surfaces of the cube. Compare them with the surfaces of familiar objects in the room—the table, the door, the slate, the window-pane, etc. Notice the impression of the surfaces on the sense of touch—smooth, leveling; in opposition to that of the edges—sharp, cutting; and of the corners—pointed, piercing What lines, and how many of each description border the surface? Illustrate the horizontal and the perpendicular line by numerous lines in the room. Explain and exemplify the right angle. Let the children find other lines in the room, in the corners of the window-panes, and elsewhere. Express their positions by words: at the top, to the right, left; at the bottom, to the right, left. Compare the surface of the cube with the curved one of the cylinder. How many surfaces has the cube? Holding it up, let their places be defined by top, bottom, front, back, right, and left side. Compare it with the room, and point out the same six surfaces. Then expose to view one surface only; then two, by turning an edge; then three, by turning a corner towards them. Can you see more than three surfaces at once? How many edges and corners do you see when you see one, two, three surfaces? How many edges has the cube? How many of them are horizontal? How many corners are there? How many right angles? The cube will rest on any of the surfaces. Can you place it on an edge? Is it really impossible? Can it stand on a corner? The surfaces are called squares, because their sides are of equal length, and their angles of equal size. Explain the difference between corner and angle. When this is well understood, apply the stick to the perforated cube. First, put it through the hole, from corner to corner, and twirl it round between the fingers; second, through the hole from side to side, when the swift revolving will show the cylinder; and, third, through the hole from edge to edge, when the reverse form of the first will appear. The same object may be attained by applying a string to the brass eyelets. That many interesting and easy lessons in arithmetic can be added, needs no more than a mere hint.

NOTES ON VILLAGE IMPROVEMENT.

When broadly considered, the work of the educator is not simply confined to schools and teachers. His aim is to improve society—to lift up to a higher intellectual and moral level the whole human family. In this view, statements of what is being done to improve towns and villages in some parts of the country, notably in Massachusetts and Connecticut, are not out of place in an educational journal. Hon. B. G. Northrop, Secretary of the Board of Education of Connecticut, has given special attention to the subject of village improvement; and as the beginning of a discussion which we shall follow up, we present below some extracts concerning the matter from his late report. He says :

"To the thoughtful mind the connection between the improvement of our villages and our schools is obvious. Public interest once enlisted in the adornment of streets, planting trees, grading and fencing the common, and kindred plans, is sure to embrace the school-house. On the other hand, 'there is no fitter symbol of decline than a bleak, broken, weatherworn, comfortless school-house, for it seems to invest all its surroundings with an atmosphere of discouragement and decay.' When public spirit is once aroused in a community, the school usually becomes one of the first subjects of improvement. The connection between good schools and the growth and prosperity of a town is well understood. The liberal policy of some of our towns is inviting wealthy and desirable residents from other States. The beauty of a village, the excellence of its schools, and other signs of the taste and culture of its people, are usually the causes which attract to it, as neglected streets, poor school-houses and churches, and various marks of narrow-minded and illiberal policy, repel from others. A good name tends to enrich a town as well as an individual, while a bad one may impoverish both.

"The influence of village improvement in cultivating the taste, developing town pride and public spirit, promoting sympathy with nature, leading to the beautifying of the home, and thus binding the heart of childhood with stronger ties to the homestead, and checking the excessive passion for city life, suggests the educational bearings of this subject. A beautiful village is itself an educator to all its youth, for the child's surroundings influence his character.

"'In the Spring of 1873,' says a correspondent of the Hart-

ford *Courant*, in reporting an educational meeting held recently in the town of Scotland, 'some intelligent and enterprising ladies of the village announced that, on a day which was named, there would be the best dinner their hands could prepare for such individuals of the other sex as would come to a tree planting. The result was the careful setting out of about thirty fine elms and rock maples. The following Summer was very dry, and great anxiety was felt for the trees. A few were cared for by those near whose premises they stood. Twenty-three remained to be looked after. Twelve ladies challenged a man to send his horse with a water barrel; twenty-three times they filled it from the brook, and twenty-three times with their fair hands they emptied it about the trees, giving to each tree a barrel. This was the beginning, but not the end, and every tree was saved. Of course one lady was the prime mover in the whole enterprise, as every good thing in this world originates with some one body or one somebody. What must come of such a beginning, and at no distant day, it is easy to predict —one of the most beautiful villages in New England, increasing the value of every farm in the town, and making it an attractive place of residence.'

"This village improvement, all over the State, is of great promise in a variety of ways. One most valuable result will be that a larger proportion of the enterprising young men will stay at home and cultivate the farms, and make it a good thing, too, with their intelligence and the improved methods: and then the maidens will stay, of course, and weddings will multiply, and the old homes will again be full of rosy children, as in 'the ages past,' and the commonwealth will make a new and noble start in the career of riches and honor and all manner of prosperity. In traveling over the State, one is constantly greeted with new surprises in the discovery of charming landscape pictures, with the finest possible sites for delightful country residences, such as merchant princes might envy, if they are men of taste. England, in its natural features, is not comparable to Connecticut in wide variety of the picturesque and the romantic. How exceedingly beautiful our little commonwealth is destined to become at a future day, by the culture which is every year extending, under the lead of village improvement associations, and in the erection of elegant country seats, is a thought continually suggested. By the time the population of the capital reaches one hundred thousand, it will be belted around by beautiful suburban houses, to which the merchant-men and bankers of the city will make haste when the work of the day is ended, and where many will pass pleasant remnants of lives whose well-directed toils have secured the means of such retirement. And, unless our constantly improving public schools, with other means of general culture,

are of less value than we are accustomed to think, the fine mansions will not monopolize the picturesque attractions and fresh air of the country. The mechanics and artisans of the cities will have their neat freehold cottages, where they will find it a much pleasanter thing to train the rose and the honeysuckle of a Summer evening than to sit in a lager beer saloon; and the entire commonwealth will be immensely enriched by the higher grade of character to which they will attain. Such a movement successfully started in one of our smallest towns, with a population of less than 650, shows how easily a kindred work might be at once commenced in any town of the State. 'It is the first step that costs;' but when once taken, men are surprised to find how little the first step really did cost, and to how many others it led. Once begun, such work goes on. The problem is to overcome the inertia that hinders the first movement.

"At the invitation of the Mayor of Topeka, his fellow-citizens lately joined him in large numbers in an 'arbor-day,' devoting the day to planting trees, and adorning their streets and parks. In other Western States 'the arbor-day' has been legalized, not indeed as a holiday, but what is better, a day of 'united workers' in tree planting. The State Agricultural Society each year designates the day, earlier or later according to the season, usually about the first of May. Iowa stimulates tree planting by a pecuniary reward, in the form of a reduction of taxation proportioned to the extent of the tree planting. What could be better fitted both to dignify and stimulate this grand movement than for a great State to give its sanction and bounty to arbor-culture, impressing the young and the old with the value and the beauty of trees, alike for economical purposes and for shade and adornment. This example of Iowa is worthy of imitation. An arbor-day ought to be established in every State. Its influence would be beneficent in Connecticut as well as in the prairie States. The spectacle of the people of an entire State devoting annually a given day to such a common interest, would itself be an inspiration, developing State pride and public spirit, and promoting local fellowship and attachments It is not the young alone who live only in the present and for the present. Few will sow where they cannot soon reap. A meagre crop soon in hand outweighs a golden harvest long and late in maturing. Youth should learn to forecast the future as the condition of wisdom. Arbor-culture is a discipline in foresight; it is always planting for the future, and sometimes for the distant future.

"There is a genuine pleasure in the parentage of trees, whether forest, fruit or ornamental—a pleasure growing with their growth. They bring rich filial returns. A noble tree is one of the grandest products of nature. It was the trees of

his own planting at Sunnyside on the Hudson, together with the beauty of the surrounding landscape, that led Washington Irving to say: 'After all my wanderings, I return to this spot with a heartfelt preference for it over all others in the world.' It was the simple beauty he had created at Marshfield, the grassy lawns, the shaded approaches, the hundreds of trees of his planting, and especially the noble old elm in front of his mansion that bound Daniel Webster so strongly to that sequestered spot. The multitude of elms planted by James Hill-house are beautiful monuments of his taste and foresight, as well as the central attraction of the far-famed City of Elms.

"The charm of Abbotsford—the grand Mecca of Scotland—comes largely from its beautiful ivy and shrubbery, and the thousands of trees planted by the hand of its illustrious proprietor In his diary, Sir Walter Scott says, 'My heart clings to the place I have created. There is scarce a tree in it that does not owe its being to me. * * * * * Once well planted, a tree will grow when you are sleeping, and it is almost the only thing that needs no tending.' With a little foresight, man may thus enlist nature in his constant service for long years to come.

"The following gem of Washington Irving is commended to our teachers as worthy to be memorized by every child in the State. Such seed freely sown will yield a rich harvest of personal culture as well as external adornment: 'As the leaves of trees absorb the noxious qualities of the air and breathe forth a purer atmosphere, so they seem to draw from us sordid and angry passions and breathe forth peace and philanthropy. There is a serene majesty in woodland scenery that enters into the soul and dilates and elevates it, and fills it with noble inclinations. There is something nobly simple and pure in such a taste for trees. It argues a sweet and generous nature to have this strong friendship for the hardy and glorious sons of the forest. There is a grandeur of thought connected with this part of rural economy. It is the heroic line of husbandry. It is worthy of liberal and free-born and aspiring men. He who plants an oak looks forward to future ages and plants for posterity. Nothing can be less selfish than this. He cannot expect to sit in its shade, nor enjoy its shelter, but he exults in the idea that the acorn which he has buried in the earth shall grow up into a lofty pile, and shall keep on flourishing and increasing, and benefiting mankind, long after he has ceased to tread his paternal fields.'"

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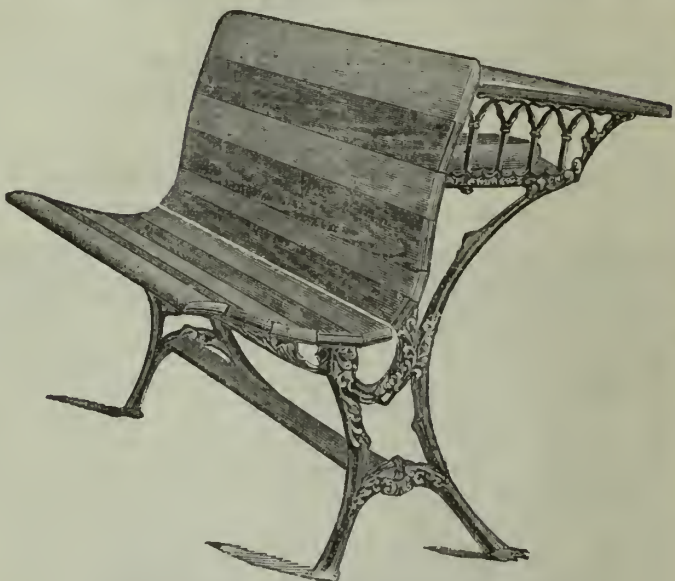

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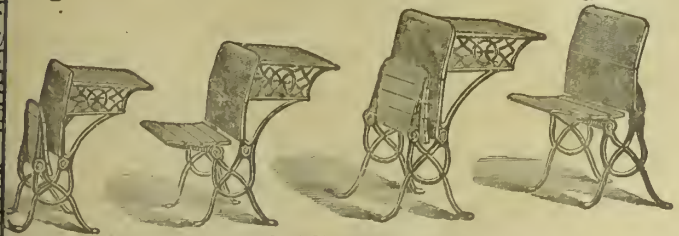

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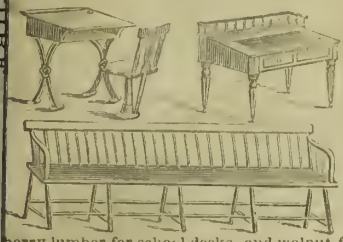

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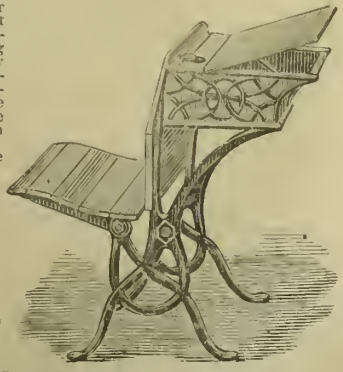

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Vol. XIII.] MARCH, 1876. [No. 9.

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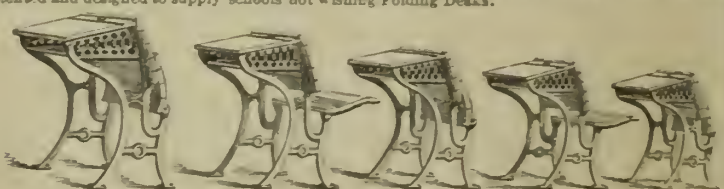

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[*For the California Teacher.*]

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Let the first experiment be made with the magnet. When it is applied successively to each of the minerals of our list, only one, *magnetite* (No. 11), will be attracted by it. By this property (*magnetism*) it may be distinguished from all the others.

Lift each specimen from the table in succession Some will be found to be lighter than the others. The coal (No. 12) will seem unusually light for its size, while Nos. 6, 8, 9, and 10 are heavier than the average. Here is an illustration of *specific gravity.*

Light the candle; place a fragment of *galena* (No. 10), not larger than half a grain of wheat, on the charcoal, and blow the flame of the candle down on it by the aid of the blowpipe; the fragment will begin to melt (*fusibility*), and the smell of sulphur will be observed (*odor*); visible fumes will be given off; a yellow *incrustation* will form on the coal. If a small quantity of carbonate of soda be added, and the blast continued for some time, small, bluish metallic beads will be seen to form (*reduction*). When the charcoal cools, the beads may be proved to be *malleable* by placing them on a piece of iron and striking them a slight blow with a small hammer; they will be flattened without breaking.

Repeat the experiment, using a fragment of quartz (No. 1). Not one of the above reactions will be produced.

Touch the rock salt (No. 3) to the tongue. A decided *taste* will be recognized.

Attempt to cut the quartz (No. 1) with a knife. It will be found impossible. Make the attempt with the following, in succession: Nos. 12, 9, 4, 2, 11. All will be found softer than the quartz, but each in a different degree. This property of resisting any attempts to separate the particles of a mineral is called *hardness.*

Compare the salt (No. 3) and the copper (No. 13). One will be found *brittle*, while the other is *tough.*

Place a small fragment of cinnabar (No. 8), or stibnite (No. 9), in the tube. The fragment must be so small that it will fall easily to the closed end. Place that portion of the tube in the flame of the spirit lamp, and observe the effect. An action takes place and fumes arise which condense in the cool portion of the tube (*sublimation*). Repeat the experiment with a fragment of the coal (No. 12) A similar sublimation takes place, but fumes also arise which emerge from the tube, and smell strongly of bitumen.

Again repeat the experiment with salt (No. 3). It will probably fly to pieces with noise, although this is not always the

case, but common table salt will invariably do so. This property is called *decrepitation*. If a fragment of the selenite (No 5) is treated in the same way, a quantity of water will separate from the mineral and condense in drops on the sides of the tube at some distance from the heated part.

The color of a powdered mineral is called the *streak*. If scratched with a hard substance, this peculiarity of minerals is shown. The mark produced on a slate when written on with a pencil, is an example of *streak*. Some minerals have a streak quite different from their color.

Form a loop in the end of the platinum wire, dip this into borax and heat in the flame of the spirit lamp. The borax will form a bead supported by the wire. Touch this when cold to a small portion of the magnetite (No. 11) previously pulverized, then heat strongly in the blowpipe flame—a colored glass will be formed, which owes its color to the iron.

Place a small fragment of the copper (No. 13)—using the file to separate it—on the charcoal; wet with muriatic acid and place it in the blowpipe flame, which will assume a blue color, characteristic of copper.

Drop a single drop of muriatic acid on the Iceland spar (No. 4), or on its powder. A strong effervescence will take place, owing to the escape of the carbonic acid set free.

By tabulating these results, we have the following additional properties of minerals:

11. Magnetism.	19. Hardness.
12. Specific gravity.	20. Sublimation.
13. Fusibility.	21. Decrepitation.
14. Giving off fumes.	22. Yielding water.
15. Odor.	23. Streak.
16. Incrustation.	24. Color of borax bead.
17. Reduction.	25. Color of flame.
18. Taste.	26. Effervescence with acids.

The application of these tests, with others not described, constitutes the science of determinative mineralogy. When thoroughly understood, they enable the mineralogist to identify any mineral placed in his hands.

Minerals have a uniform composition; that is to say, an analysis of any portion would be exactly that of any other portion. Rocks and ores are aggregations of minerals.

TRAINING CLASS FOR TEACHERS OF INDUSTRIAL DRAWING.

The Legislature of New York having enacted that the study of Industrial Drawing shall henceforth form a part of the public education of the State, the Cooper Union, anticipating the demand which will arise for competent teachers to give instruction in this branch of study, has formed, in connection with the Art School of the Union, a normal training class for the special purpose of fitting teachers to teach Industrial Drawing in public schools. In this class, students will be thoroughly trained both in the practice of the features of Industrial Drawing, which can be taught in the public schools, and in the best methods of teaching them. The instruction will be given by Miss Carrie E. Powers. Miss Powers is a pupil of Prof. Walter Smith, the Director of the Massachusetts Normal Art School, and the State Director of Art Education for Massachusetts; and she has had large experience in teaching Industrial Drawing in public schools.

The instruction is based essentially upon the elementary features of Art Instruction, which have been adopted by the leading Art Training Schools of Europe, and by the Massachussetts Normal Art School. It also embraces fully the features of instruction suggested by the Superintendent of Public Instruction of the State of New York, as essential to be taught in public schools, and so successfully introduced into the public schools of Massachusetts. The course of study embraces the following subjects, with the theory and practice of teaching:

Freehand Outline Drawing and Design, with Memory and Dictation Exercises.
Geometrical Drawing.
Model and Object Drawing in Outline.
Perspective Drawing.
Harmony of Color.
Elements of Water-color Painting.
Foliage from Nature in Outline.
Conventionalization.
Historical Ornament and Styles of Decoration.
Botanical Analysis of Plant and Flower Forms in Color.
Applied Design for Industrial Purposes.

Each pupil will be required to prepare during the term the following drawings, on half imperial sheets, to be called Diploma Drawings, which must be approved by the instructor of the class and the principal of the school:

1. A Freehand Outline Drawing, Enlarged from the Copy.
2. A Sheet of Geometrical Problems.
3. A Specimen Lesson in Blackboard Drawing and Dictation Drawing.
4. An Original Design from a Plant in Outline, to fill a Geometric Form.
5. A Sheet of Perspective Problems.
6. A Group of Models in Outline.
7. An Outline Drawing of Foliage from Nature.
8. A Painting in Water-color of a Flower, from Copy.
9. A Sheet of Historical Ornament, showing an Analysis of Styles.
10. An Outline Drawing of Ornament from the Cast.
11. Botanical Analysis of Plant or Flower Forms in Color, for the purpose of Industrial Design.
12. An Original Design for some Industrial Purpose.

At the close of the term the class will be examined in the following subjects:

Freehand Drawing on the Blackboard.
Geometrical Drawing.
Model and Object Drawing.
Dictation Drawing.
Memory Drawing.
Perspective Drawing.
Harmony of Color.
Theory and Practice of Teaching Industrial Drawing.

Students completing the Diploma Drawings and passing the examination will be given a Diploma from the Art School of the Cooper Union, certifying that they are fitted to teach Industrial Drawing in public schools.

Applicants are examined in Freehand Outline Drawing from the flat, and in Model and Object Drawing, and in the common branches of education, and the instruction is free.

Applications for admission to the Normal Training Class should be made to the Principal of the Art School, Cooper Union, New York.

DRAWING, A PART OF A LIBERAL EDUCATION.

A liberal education may be described as a clever mixture of what a practical man would call the useful and the useless. By the former he would mean those studies which fit a man for success in that part of life which may be called its working-day; by the latter, those which during that day will probably lie unused and hidden from sight like beautiful stars, their light insufficient to enable the laborer to gain the bread that sustains him, but which brighten and glorify his homeward path when his day of toil is ended. The literary excellence which enabled the school boy to excel his fellows on commencement-day, may form no part of the ordinance by which he forces from a hard-fisted fate that most necessary of all things, a competency; but the balance at the banker's once obtained, the wealthy man of leisure finds in his pen a pleasant resource, and has frequently added some of its brightest pages to his country's literature. And what the "making of books" has been to some of those who have found the burdensome weariness of doing nothing more irksome than the burdensome weariness of doing too much, the arts of drawing and music have been to others. Of these two, the former seems to be in some respects the superior, whether we consider its relation to him who practises it, or to those who surround him.

In the first place, it is unobtrusive. A grown up family of sons and daughters may object, with some reason on their side, to their father's shattered voice, or to old-fashioned tunes played on his beloved violin. His best efforts in pursuit of harmony may produce only discord by sending a shudder of pain over unstrung nerves and aching heads. Drawing or painting being confined strictly to himself, can annoy no one. And, to him, how rapidly pass the otherwise weary hours during which he places upon paper or canvas some conception of his own imagination, or copies the work of a more gifted artist, or depicts in glowing colors Nature's handiwork, some lovely view, some gayly-tinted flower, some winged bird or butterfly, some object which time destroys but which his pencil immortalizes. And, to his children, how precious in days to come may be these memorials of his last, well-remembered years. In view of all this, may it not appear, even to those who glory

in the thought of being practical men, that the art which seemed almost puerile in the boy's education becomes, in his later manhood, of the very highest importance; preserving him from that most wearing of all occupations "killing time."

As a motive-giver, drawing is in some points superior to music. They both find their votaries in the quiet of home. But music frequently takes them from home to scenes of lightness and folly which are opposed to the highest culture of mind and heart. To the subject of this paper this objection cannot be made. With all the power of silent eloquence, it makes home attractive. Its best efforts are put forth for household decoration. And, while it makes home charming to the family, it appeals to the nation for peace and its companion, prosperity; for, in time of war, its masterpieces are lost and ruined, its followers scattered and impoverished. The martial music which rouses men to war and bloodshed, finds no counterpart in the works of the great painters; they preferred, as subjects, scenes from the sacred story, or pictures of domestic and pastoral life. As a promoter of individual economy, a taste for this fine art is deserving of notice. He who has been educated to appreciate beauty of form and harmony of color, will seek to procure for his home such works of art as will add to its attractiveness. For this purpose he will reserve the funds which his less cultured brother expends in unworthy amusements and flashy clothing. The painter, the engraver, the author, will each receive some portion of his earnings. Thus he adds to the wealth of the industrial classes of the city and country to which he belongs. His culture, given perhaps by the public, becomes a public benefit. He returns with interest the money expended upon him. "Behold," he says with pride, "thy five talents have gained other five." A discriminating public will reply, "Well done, good and faithful servant."

And putting revealed religion out of the question, man's religious views are modified to a great extent by this potent educator. What son of Adam, be he Jew, Turk, Christian, Infidel or Pagan, fails to anticipate some future place of rest? —some heavenly home, of many attractions, which shall compensate for earthly disappointments. And this ideal home being left to their imagination as to detail, each race makes it the reflex of its mental growth and present aspirations. To

the Egyptian bond-slave, ignorant, half-starved and oppressed, his Canaan was described as a land flowing with milk and honey, a land of olive fields and vineyards. To the Mohammedan soldier, weary of battle, savage, untutored and longing for repose, heaven was a place of houris and of rest. To the American of our day, according to that popular vision of heaven, "Gates Ajar," a mixed dream of ease and work. A man's future home is as his mind is. Give him Greek taste, Greek love of art, and it becomes a scene radiant with beauty of form and color, made still more charming by beauty of sound, the haunt of Apollo and the Muses. Give him only ideas of trade and money-making, and it becomes a place of dull rest, of mental and moral atrophy. And his earthly home, sad to say, becomes in its turn the reflex of his heavenly, a place in which he eats and sleeps, dull, uninviting, wearying, truly, to the child brought up in it, as dismal as that one in which he is told "the congregations ne'er break up and Sabbaths never end."

To conclude, we ask for a place for drawing in a liberal, or, indeed, in any education. Not merely as a means for adding to a nation's wealth, though it does add to it, but as a means for making its recipient's life more full, more rounded, more complete; as a resource in the idle hours of middle life, in the depleted years of old age; as a means, among others, by which a nation of boors may be changed to a nation of critics; a land of huts, to a land of palaces; a people of coarse thought and vulgar aspirations, to a people of refined morals and elevated hopes.

Better fifty years of Europe, than a cycle of Cathay.

[*Annie E. Trimingham, in National Teachers' Monthly.*

COMPOSITION.

Plan for the Exercise.—1. One subject for the entire class.

2. Select a subject in which pupils of the age of those in class (supposed to average twelve years) are interested, or in which their interest may easily be excited.

3. A conversational exercise with the pupils, to lead them to think about the subject, and to gather information upon it.

4. A day or two later, a second exercise, for the purpose of bringing together the materials for the composition, and of developing one or more plans or outlines for the work.

5. School time to be given to the pupils for the actual composing.

6. Have *all* the compositions read, the teacher finding something, if possible, to commend in each, and making such corrections only as the pupil can comprehend and appreciate.

7. A few representative errors, to be specially corrected by use of the blackboard.

8. The pupils to examine each other's work, to designate, by some system of symbols or notation, such corrections as they are competent to make.

9. The exercises to be rewritten as well as possible for the final inspection and marking by the teacher, having regard, in giving credits, to an *honest attempt*, rather than to literary merit.

Supposed Conditions.—A class of boys or girls, or both, averaging twelve years of age, of ordinary ability or attainments; one hour per week set apart for composition work, either in preparation, actual composing, or in reading and criticising; the teacher prepared with interesting matter and suggestive questions, and a plan for the development of the subject.

SUBJECT SELECTED, "SNOW."

Teacher's Talk with the Pupils.—I noticed that you seemed delighted, this morning, with the snow which was falling so gently, and so very white and pure. Now you may give your reasons for being pleased to see it snow. Yes, indeed, the snow makes you happy in many ways. Can you tell me of some of the benefits of snow, beyond the sports and amusements which it occasions? Very good; it does enable people in cold countries, where good roadways are scarce, to travel long distances easily and rapidly. And it is a very warm covering for the earth, like a great blanket of soft wool.

You know how snug and warm the Esquimaux are in their snow-houses. How many of you know how these Esquimaux make their houses? Yes, James may bring his book that tells about it, and read it to the class.

Now, we say, "*It* snows." Can you tell me *what* it is that snows? "The snow snows!" Well, think about it. Ask your

parents about it. Tell me, too, to-morrow, *what* snow *is*, and how it is formed. Oh, yes; snow crystals *are* beautiful. And you have caught them; but how quickly they are melted in your hands! When you wish to compare anything with something *very* pure or *very* white, what may you properly say? Did you ever hear of this snow, so beautiful, furnishing you the means for so many sports, and so very useful withal; did you ever hear of its doing damage? Yes, the avalanches are frightful, and sometimes very destructive. Who can bring a book to tell about them?

[The above is given as a specimen only, of the questioning, with an indication of points upon which suggestions are made, and information given. The object of this exercise is to get the pupils to thinking somewhat upon the subject, and, in a measure, to digest the materials, however scanty they may be, of which the written exercise is to be made.]

The pupils will need, in the first stages of their progress, considerable help in forming the outlines of their composition; but, having this aid, they will gradually, and almost unconsciously, fall into a habit of systematic arrangement in their written work. They will soon learn that what they know upon a subject, thrown together as it may happen to come up in the mind, is hardly less a good composition than various kinds of building materials, tumbled into a promiscuous heap, is a house.

During a second exercise upon the above subject, in which more materials are brought together, an outline like the following might be brought out, and written upon the blackboard, as a guide for the pupils in writing:

SNOW.

1. What it is.
2. Where it is.

3. Why it sometimes melts, forming rain.
4. How it looks when falling.
5. Its appearance when covering the ground, the fences, houses, trees, and everything outdoors.
6. The snow-crystals—their beautiful forms.
7. The uses of snow-amusements.
8. What becomes of snow, avalanches, freshets.
9. A story about some sport with snow.

The above may be too much for any one pupil to write out for one exercise. But it may easily be divided, different pupils taking different topics, or letting the work upon the whole extend over several weeks.—[*L. W. Russell, in New England Journal of Education.*

THE DISCIPLINARY VALUE OF LINGUISTIC STUDIES.

Read before the Educational Association of Virginia, by Major R. W. JONES, *President of Martha Washington College.*

The indispensable importance of scientific method, skill and information, would justly demand for the sciences a prominent place and large space in every properly adjusted scheme of education. And when we add that the mind is exercised in many of its modes of activity by these, we cannot fail to attach to the prosecution of them high consideration; but the claims of linguistic and scientific studies are not necessarily antagonistic; they can be harmonized. It is extremely difficult to ascertain the precise nature of any mental faculty and the mode of its growth: to analyze a study and discover plainly its adaptation to the exercising of that power of mind. We cannot be expected to measure with *mathematical precision* and *certainty* the disciplinary value of linguistic studies. In the investigation of this subject we proceed *a posteriori*, and our conclusions are based mainly on induction. Some general principles have been established by long observation and the experience of ages: we feel safe in stating that the effort of mind in the pursuit of all forms and kinds of truth, the possession of knowledge, and the employment of it, are beneficial. *Language* is the instrumentality by which this pursuit is made and possession gained; acquaintance with the instrument is indispensable to its successful use: hence, the study of language is preliminary to the prosecution of all other enquiries This is essentially true of the vernacular, and, in a modified sense, true of other languages. Every thought which one mind delivers to another, and by which the other is aided, energized and elevated to larger range, owes its transmission to language. The progress of thought in ages and among peoples, and the

structure of civilization rest upon language as a necessary basis. In the languages of Greece and Rome we have a better mirror of the life and character of those nations, a sublimer monument to their intellectual achievements, the excellence of their institutions and laws, their prowess in arms, the charm and glory of their literature, than is furnished by their sculpture, their painting, their public buildings, their stupendous ruins.

There is, therefore, no study which opens to man a broader field of investigation than language. Indeed, it is universal; it furnishes a record of every mental process, and consequently exercises every mental faculty.

To be brief, we content ourselves with the bare *mention* of *some* of the powers of mind which, it is claimed, are improved by the study of language.

1. *Observation.* The study of the physical sciences is an admirable means for inculcating habits of accurate observation of objects and phenomena in *nature.* Language renders not only important, but essential the closest attention to forms of letters, words, the structure of sentences, modes of thought as set forth in varied and modified expression. The Latin and Greek languages are richer in forms and more complete in structure than any others pursued in our schools: for this reason, as well as for some others that might be mentioned, they are specially adapted to the development of this faculty of *observation.*

2. *Memory* must be constantly and earnestly employed in treasuring up facts and principles, declensions and conjugations, words and their meaning. Without this work there can be no progress in learning language. The improvement of method in late years has done much to facilitate the labor, to render the study less irksome, more attractive; much more may yet be done, and thus great economy of time be effected by which to satisfy the growing demands of other subjects—particularly the physical sciences. It is much to be regretted that many of our profession still go in the old trodden, circuitous paths, ignorant of more direct ways, and the clearer, more comprehensive views furnished by them. No improvements in method will ever enable the teacher and pupil to dispense with vigorous effort and active use of memory; nor is it desirable that

these be set aside. Many thrusts, made at the study of the classical languages under cover of such phrases as "Gerund grinding," "The Grindstone Theory," have been harmless, though they were intended to be mortal. They attack only an abuse, and not the study itself.

3. The close study of words, the investigation of their exact meaning, their relation to other words of a proposition, their classification, their function in the clause, sentence and paragraph, develops the power of nice *discrimination, abstraction, classification, judgment and reasoning.* The careful weighing of thought in the scales of expression, the modification of idea in the turn of phrase, the cut of idiom, encourage quickness, sharpness and reach. The mind is hereby taught to estimate *relation*, which is fertile in elevating suggestions, the basis of obligation and duty, and the most important factor in the solution of the problem of life. Time and energy, otherwise wastefully expended in a "war of words," are husbanded and employed for positive advances. The scientific man, the philosopher, the orator, the man of trade and merchandise, will say and write with unmistaken directness exactly what is meant, and thereby avoid misleadings, losses and haltings that come from a feeling of uncertainty and indecision.

4. There is, as elsewhere intimated in this paper, a mysterious, vital connection between language and thought, an action of each on the other. By the study of language as such, we improve it; this reacts upon thought, fructifying and multiplying it. In this one advantage the disciplinary value of the study becomes incalculable.

5. From considerations already presented, it is evident that the study of language furnishes the best introduction to *Ethics and Metaphysics.* The teacher that has tried to give instruction in these subjects to a student, whose vocabulary is poor, who has not formed the habit of carefully weighing the meaning of words, and of ascertaining their use, will not need to be told how limping and hesitating the march, how cramped and embarassed the movements, how rugged and dusty the way. With the habits and training, which the proper study of language imparts, the mind gathers pleasure and profit from a field so ample, inviting and fruitful: while to those unprepared

to cultivate it, naught is presented but sterility and disappointment.

6. No man liveth to himself,—not the *whole* of a man's existence should be spent in drudgery; the shop, the office, the farm-work, should not consume all his time. It matters not how crowded a man's life may be with labor, with cares of business, he must have time for rest and recreation; "a man's life consisteth not in the abundance of his possessions." The social, moral and mental culture of the family and the improvement of his fellow-men make demands upon him. The dignity of his own being revolts at the proposed servitude to sordidness. There are enjoyments purer and nobler than that which results from successful enterprise in business. Nothing sweetens solitude like æsthetic and literary pleasures. The mind that has a relish for poetry, oratory, history, philosophy, fiction, is supported when the winds of adversity blow, is calm and sustained during the dreary hours of watching by the bedside, is pleasantly and profitably occupied on the journey that is wearisome and uninteresting to the uncultivated, and is provided with the weapons of defense against the forces of degrading sense.

The study of language possesses the only wand that by its magic touch opens the pure fountain of these pleasures. He must be an earnest and delighted prosecutor of this study who would wield the keen blade of *criticism*, who would command the *didactive* and *persuasive* power, who would instruct men and arouse them to action, who would incite them to the performance of a heroic part in great crises of events.

Whoso would discover the finest lines of thought and display the most delicate colorings of sentiment, must call into familiar requisition the linguistic spectrum. To him is revealed not only that broad and strong and studied and formulated induction of the logicians, but also that subtler, less palpable energy—*artistic induction*, which plays so important a part in the lives and success of men, and for the government of which a law has scarcely been enunciated.

The Greeks and Romans made their national and individual lives so significant; furnished a history so rich in examples, so penetrating and pervading in its lessons, so persistent and and directing in its influence; and so profoundly impressed

their thinking on the world's destiny, that no result of philology or philosophy can be computed without reckoning as important the element which they contributed. Without a knowledge of Latin and Greek the students of law and theology are dependent borrowers, unprepared for original investigation, compelled to receive their knowledge through intermediate authorities and translations: he who would *know* the nature of his draught must take it from the *fountain*. Thus it is that linguistic studies are valuable, both for their quickening effect on the mind and the untold treasures of knowledge which they unlock.

One caution may be necessary: Linguistic studies encourage respect for authorities; the tendency of mathematical and scientific studies is to independence and overestimate of self; either result in excess is serious; the one terminates in servility; the other, in offensive dogmatism. The blending of the two effects places the mind in the most favorable state and advantageous attitude for the investigation and appreciation of truth.

For disciplinary value, the Committee rates Latin and Greek higher than any other languages. These, with German and French are most valuable aids to the study of our mother tongue. Of course, all things considered, the English language is most important to English-speaking students, and it is a subject of just pride that our vernacular transmits to us the richest literary legacy ever bequeathed to any people.

OBJECT-TEACHING---COLORS.

[*Notes from Lectures delivered before Primary Teachers at the Saturday Sessions of the New York Normal College—By Professor* N. A. CALKINS.]

Since the days of our great grandfathers, the importance of attention to the "three Rs—reading, writing, and arithmetic"—has been enjoined upon children and teachers through successive generations, and to-day, familiarity with these studies is deemed indispensable to a good primary education. In view of this fact, it is not strange that the question should be asked: "Why teach children so many other subjects?"

Especially might one who has not carefully considered how the child gains knowledge, and what constitutes an education, ask: "Why give children lessons on color?"

Let me assure you, at the outset, that I do not undervalue instruction in reading, writing, and arithmetic. Indeed, I regard these studies as of the highest importance, and believe that they are indispensable in a good elementary education. I would not, therefore, have you relax your efforts in teaching these branches. My aim is rather to lead you to see how you may prepare your pupils for becoming much more efficient in their knowledge of each of these subjects.

When you consider the materials with which you have to deal in your work of teaching children who have not been trained in the use of their senses, even to that extent which would enable them to gain definite perceptions from the most common objects—children who have not learned to see accurately, and whose language is so undeveloped that they cannot tell what they see—children who have yet to acquire good habits of hearing, seeing, speaking, and thinking—children who have but a few ideas pertaining to any object—these are some of the conditions in which the primary teacher finds her pupils when they first enter school. In view of these facts, you cannot fail to perceive the necessity of first preparing these children to learn; of developing their unused senses and powers of mind before you can teach them reading, arithmetic, and writing successfully. It must follow that those subjects which are adapted to develop and train the several powers of a child's mind are proper subjects for exercises of instruction.

In order that you may understand this matter more thoroughly, and know why you teach, and what subjects are important as a means of instruction in primary schools, I will state a few principles that govern correct teaching, and the acquisition of knowledge generally.

The child gains knowledge by exercising the several senses —seeing, feeling, hearing, tasting, smelling—in connection with various objects. The personal experiences of the child educates him. The contact of his mind with objects supplies him with ideas of those objects. Knowledge consists in ideas. Words do not represent knowledge to the young learner before his mind possesses ideas to be represented by them. Words

must be intimately associated with things, actions, and qualities in such a manner as to represent them to the child's mind, before the words can constitute knowledge to that child.

Ideas are obtained in different ways. Some can be obtained only through the sense of sight, as color; some only through the sense of touch, as rough, smooth, sticky, slippery, soft, hard, hot, cold; some only through the sense of smell, as odors; some only through the sense of taste, as sweet, sour, bitter, pungent, astringent, etc.; some only through the sense of hearing, as sounds, spoken words, music, etc. Of some objects, various ideas may be gained through several of the senses, as the shape of the orange by the senses of sight and touch; the color of the orange by the sense of sight; the odor by the sense of smell; and other properties by the sense of taste. The ease and accuracy with which ideas may be obtained in these different ways, depend upon the degree of development which these several senses and powers of mind have attained.

If the only gateways through which the mind can hold intercourse with the world around it be but partly opened, or if freedom of communication be obstructed by neglect to use the proper means for such intercourse, the ideas obtained must be correspondingly dwarfed and imperfect.

It is a well known fact, that the proper exercise of any power, whether physical or mental, increases that power. Exercise of the several senses is, therefore, the true means by which the power of gaining ideas may be strengthened, and the ability to acquire knowledge increased. It is also a well known fact, to all observing teachers, that a large proportion of the young children, when they first enter school, have not learned to use their senses in such a manner as to enable them to gain accurate ideas. It, therefore, becomes a matter of great importance that teachers of young children should give special attention to providing suitable means by which their pupils shall obtain the needed exercises to produce the desired development of their powers of mind. If the exercises and lessons of the primary school are made what they should be, the pupils will gain the power of learning every kind of knowledge, while they are receiving instruction in the simplest elements of an education. This power can be but partially attained by learning to read, spell, count, and add. Such lessons do not supply

the necessary opportunities for developing *all* the senses; they do not furnish such a variety of exercises as the condition of the child's mind requires to develop all its powers. Such modes of teaching, and variety of exercises as are furnished by true Object-Teaching, do supply the means for developing the child's powers in that manner which will lead to the attainment of the best results in education.

Some of the natural modes for developing the senses of children, and training them to obtain ideas, is to lead them to exercise their senses in noticing differences in colors, shapes, qualities, etc., and at the same time giving them suitable words to symbolize and distinguish their ideas of the colors, shapes, qualities, etc., noticed. The proper steps for accomplishing this would be:

First—Lead the pupils to get the idea desired by seeing, feeling, tasting, smelling, or hearing, as the proper mode may be.

Second—Give the pupils words to communicate the ideas thus obtained to others.

Since teachers cannot get the ideas for their pupils, and since the words are of no use to the pupils without their corresponding ideas, and since language is based upon words that represent ideas to others, it is evident that the first work of the primary teacher should be to teach the children how to get ideas —in other words, to train them in the way to learn. This must be done by selecting and placing before them the appropriate materials, objects, qualities, actions, etc., and then stimulating their minds to act upon them through the appropriate senses. The second step of the teacher will naturally follow—that of giving words to represent the ideas as fast as they are gained. By this mode of teaching words, the pupils will always know the meaning of all the words learned. Still further drill should be had with these words, so as to include their sounds, spelling, and how to write them.

If children were not sent to school until they had gained a large stock of intelligent ideas from objects, and had learned to know by the ear and by use in speech the words necessary to represent those ideas clearly, the chief work of primary teachers would consist in teaching their pupils to know the words thus learned by sight, and how to write them. But

this condition of development does not exist in the majority of children sent to primary schools. Their ideas and use of words are too limited to form a good basis for instruction without special training in the use of their senses, so as to give them facility in gaining ideas.

Children learn from that which interests them. They acquire habits and power of learning while gaining knowledge of a given subject. Sometimes the habit is more valuable than the knowledge itself. Sometimes the knowledge is most valuable. The aim of the teacher should be two-fold—development and instruction—and in this order. Thus the child's power to learn will be increased while he adds to his knowledge.

In view of the foregoing statements, I trust you will understand that some subjects may properly be used for lessons in primary schools, while the chief purpose in their use is to prepare the children for learning, reading, and spelling more easily and correctly; or where the aim is to train the pupils in habits that will enable them to acquire a thorough knowledge of any subject with far greater ease than they could do without such discipline of mind.

COLOR.—Lessons on color interest children, and thus become a ready means of training them in habits of attention. These lessons furnish excellent opportunities for comparison, and thus teach the pupils to distinguish resemblances and differences. The power of attention and comparison acquired by suitable lessons on color will increase the pupil's power of attention and discrimination when directed to other subjects, as reading, spelling, etc. When you know, as you may by experience with your own pupils, that the discipline of the powers of mind which may be had from lessons on color will prepare those children for learning other subjects more easily, you will be able to give an intelligent answer to the question, "Why give children lessons on color?"

But there are still other reasons for giving these lessons. A general knowledge of colors is of importance in almost every avocation in life. This becomes especially apparent in the preparations of materials for dress, household decorations, painting, and in various manufactures, trades, etc. From the fact that many persons are found to be color-blind—*i. e.*, unable to distinguish even some of the most prominent colors, or to

tell which of two colors is red, or which is green—it is of great importance that each person should be led to know whether he or she has this defect or not before engaging in any occupation in which the ability to distinguish different colors is an indispensable qualification.

Beside much of what at first appears to be a physical defect in not correctly distinguishing colors, probably may be removed by leading children to give such careful attention to colors as will train them to distinguish the most prominent colors with ease. The possibilities in this direction are sufficiently strong, and the importance of knowing whether such a defect as even partial color-blindness exists in a child, before he is old enough to choose his life avocation, is a matter of so great consequence that attention to this subject cannot be neglected with impunity in primary school training.

Having endeavored to make you understand *why* the subject of *color* may be used for lessons in primary schools with profit to the children, I will next invite your attention to some of the ways in which lessons on this subject may be given, for the attainment of these ends.—[*Brooklyn Journal of Education.*

[*Continued in April Number.*]

THE "COURSE OF STUDY" IN PUBLIC SCHOOLS.

The New York and Brooklyn Boards of Education have coincidentally ordered, through appropriate committees, an inquiry as to the existing course of study pursued in the schools under their charge, the feeling being very general that the requirements of the several grades are beyond the attainments of the average pupil. The consistent proportions of existing courses of study have been very much impaired or destroyed by the gradual accretions from time to time, small and perhaps trifling of themselves, but which have tended rather to encumber and retard the progress of the pupil than to facilitate it and enlarge the scope of attainable knowledge. While the inquiry is a proper and timely one, we believe it will be found, to the surprise of many intelligent gentlemen, that much good can be accomplished by very simple readjustments of the pres-

ent courses of study. Radical change in any important element of school management should be considered with caution; and while, therefore, it may be true, and doubtless is, that in some directions there is unhealthy crowding of some studies, and necessarily much superficial work, it will not follow that everything must be abolished beyond the now traditionally-sentimental three Rs; while to eliminate everything which has served to give to very many children the benefits of a little general knowledge, even of the most elementary type, would scarcely be wise. This point, we do think, however, will become apparent, on investigation; that more thorough elementary work can be done in the primary departments, and this in itself, if brought about, will tend to relieve much of the stress and deficiency complained of elsewhere. — [*Brooklyn Journal of Education.*

LEARNING BY HEART.

It is said that the practice of making their scholars learn by heart is now almost abandoned in our grammar schools. It It is no longer part of the work of the lower and middle forms to repeat pieces from Shakspeare and Milton, Virgil and Ovid. The upper boys are not now required to bring up, at the yearly examination, lines from Horace and Sophocles, Catullus and Pindar, or encouraged to select striking passages from Livy and Thucydides, and commit them to memory. Five-and-twenty years ago, the best lads coming up to Oxford from the best public schools, could say by heart the greater part of the Odes of Horace, hundreds of lines of Virgil, Catullus, Ovid, Homer, Pindar and Sophocles, and many choice morsels from other classical authors. They not only knew what great characters the Greek and Latin historians drew, and what great deeds they recorded, but they could repeat the actual words of some of the most celebrated passages. Now it is said to be a rare thing to find a freshman who can say by heart fifty consecutive lines of Milton or Homer, or even Horace. Explanation and illustration, talk about the text—or "literary estimates," as it is the fashion to call them—have taken the place of the old intimate knowledge of the actual

text of the authors. The sixth-form boy, though he cannot repeat what Homer and Milton have said, can almost repeat what Mr. Gladstone and Mr. Morley say they have said. The latest comments on the text of a renowned author receive now the reverence which was formerly reserved for the text itself. The scholar and his teacher agree that committing to memory the words of authors is a slavish practice, which, whatever may have been the necessity for it in the dark ages of grammar-schools, when books were few and ushers ignorant, must now give place to more free and less mechanical methods.

If this is really the case, a greater mistake has not been made in English Schools since the revival of learning. The basis of all sound knowledge and of all true appreciation of the literature of any language is a careful, reverent, pondering study of the text of the best authors who have written in it. And in the process of such a study, learning by heart is a most important, it might almost be said an indispensable, element. No means, for example, are so effective for helping the young scholar over the formidable difficulties which he must encounter when he first breaks ground in a literary language. No other process give him so easily or so quickly a vocabulary; none gives him so speedy or so sure a mastery of genders and quantities, of the combinations of case, of exceptional inflections, of the right order and relations of words in a sentence, and of the other rudimentary idioms of construction. Again, the student of a literary language, whether ancient or modern, has acquired no real mastery over it, no real insight into it, until he has learnt to compose in it to a certain extent. And nothing promotes the acquisition of the art of composition so much as learning by heart. No plan, for example, has ever been found so successful for teaching boys and girls to write Greek or Latin, French or German prose as that of causing them to render a passage, translated into English from a standard author, back into the language of the original, and then making them learn the original by heart, and compare it with their own faulty attempt. Or if, as some modern critics and essayists tell us, the appreciation of style is the great result to be produced by a literary training, what process is so apt to generate this faculty as that of committing to memory famous passages from the works of great masters of style?

A hundred lines of Plato or Cicero committed to memory are worth more than pages of discourse by the acutest critic upon the style of Plato or Cicero.

Persons who went to school while it was still the fashion to make scholars learn by heart, and have thus acquired the power of doing so without much discomfort, should value and cherish the faculty as they cherish their eyesight or their bodily activity. Once acquired, the power is, like the power to swim, never wholly lost. But it must be exercised continuously in order that its full benefits may be enjoyed. Great as is the value of a literary memory to the young, essential as is its proper cultivation to their literary training, its exercise is yet more valuable and necessary to busy men of middle age, if they wish to retain any hold upon the culture of letters, and to preserve around their minds an atmosphere of something better than money-making, business or society. The very busiest among professional men or traders must have each day some spare minutes in which he has what is commonly described as "nothing to do"; when he is separated from his books and his papers, has nothing at hand to read, and sees around him nothing which particularly interests him.

If anything unworthy attempted to establish itself in his thoughts, it was speedily banished by the help of noble verses from Sophocles or Shakspeare. If he was beset by a worry or a foreboding, he called his favorite poet to his aid, and soon passed from suffering to ease, and from ease to happiness, as the glorious stanzas of Dante or of Spenser rolled through his brain. There is indeed no comparison in point of value between what the imagination of any ordinary man would supply to him at such a time, and what he might get from his memory—that wonderful faculty, which, as Addison remarked, may always be depended upon to provide us with materials for entertainment when we have nothing at hand to entertain us; and which he quaintly compared to those repositories in several animals which are filled with stores of their former food, on which they may ruminate when their present pasture fails.

But besides its estimable value to busy professional men for this purpose of "rumination," learning by heart has a special value to them for purposes of acquirement. Not only is it the only process by which they can retain, digest and enjoy the

literary food which they cropped at school and college, but it serves also as their best guide to fresh woods and pastures new. Few men can have been so well educated that they do not require to learn one or two additional languages after they are grown up. If in their youth they have been good Greek and Latin scholars, the probability is great that their knowledge of French, German and Italian is small. And if they had only what is called a modern or practical education, every day must make them feel how important it is for them to learn Greek. And nothing will be found to help the student who is striving, amid all the cares and impediments of middle life, to teach himself a new language, more than the employment of a few minutes every day in learning something by heart from a good writer in that language. Much can be learnt by meditation in spare moments on the words and phrases of a great writer, which the self-teacher can learn in no other way. And there are opportunities in a busy life for learning by heart which are not available for any other kind of literary study. The very busiest of men will find that he is able, if he only determines to do it, to learn by heart every day something worth remembering. What King Alfred found time to do, surely even a modern barrister or physician may find time to do. It only requires a little determination, a little management, a little economy of time, and a little self-denial, to learn a few lines even on the very busiest day of a busy life. The man who will take the trouble to keep a book beside him when he is dressing, or put it in his pocket when he goes out, and who will shorten by five minutes his reading of the evening papers or his gossip, has practically mastered the difficulty.—[*Saturday Review.*

WOMEN'S COLLEGES.

The natural and passionate desire of many women to find out a career for themselves, is regarded with different feelings by different classes of well-wishers. With ourselves the wish that women may try the experiment in whatever ways may, from time to time, offer themselves, has predominated over the fear that they may not succeed; or that success, when achieved,

may be found to have its accompanying drawbacks. In others, on the contrary, the modes in which women's desire to make a career and a subsistence for themselves sometimes shows itself, inspire only doubt and uneasiness. Nothing but the favorable issue of the experiment will convince their timid friends that their forebodings are uncalled for or exaggerated. They will continue to shake their heads over the social changes which the new theory of the industrial position of women seems to them to postulate, and to lament that those who build their hopes on the changes in question should sometimes be so ready to ignore physical and economical laws, if they happen to stand in their way. It is to this class that we propose to particularly address ourselves. They are bound to be especially glad when an occasion presents itself which opens out to woman a road in which they may shortly be able to start with the same advantages and to achieve the same success as men, without raising any of the problems which are connected with their efforts to rival men in the callings which they have till now regarded as specially their own. Their very distrust of some recent efforts at throwing open this or that calling to women, makes it all the more incumbent on them to help to create a career which men have never dreamed of appropriating.

A few years since it would have been a mockery to speak of education as supplying an occasion of this kind. The precarious and ill-paid labor of a governess, or the risk and anxiety attendant upon the management of a girls' school, was the only alternative that the world could have conjured up. The labors of the Endowed Schools' Commission have done much to provide a third alternative. It is no longer necessary that a competent teacher should either seek for employment in a family, or buy the good-will of an established school, or take the chances of setting up a school for herself. There are now many schools, either already opened or shortly about to be opened, in which the salaries of the principal mistress range from £250 upwards. There are larger prizes than these in prospect—prizes so large, indeed, that we hardly expect to be believed when we name them. Down to a very short time since, if any one had said that in 1875 one woman would have been making £1,300 a year by teaching, and that in another

school, to be opened by-and-by, the head mistress, supposing the school to be full, will have a minimum salary of the same amount, with a chance of its reaching £2,000, he would certainly have been set down as a dreamer. It is not, however, these magnificent possibilities that constitute the stuff of which the career we speak of is made. They can but be what the head masterships of the great public schools are to the great body of masterships in schools. It is the smaller places, the places of £250 a year and upwards, that promise to make so great a difference in the position of educated women who have to earn their own living. The new schools which are gradually growing up under the Endowed Schools' Commission are certain to be only the forerunners of many more. In the first place, the work of the Commission is still going on, many endowments yet remain to be re-organized, and under any circumstances, a certain proportion of these is likely to be devoted to the provision of a better education for girls. In the next place, this proportion will probably be increased in the latter schemes, if the earlier schools create, as they are likely to do, an increased demand for this better education. In the third place, the raising of the standard, or rather the institution of a wholly new standard, of girls' education, by the foundation of public schools will re-act upon private schools, and provide in them also opportunities analogous in character to those provided by the Commission. For a very long time to come, therefore, the scope of the career will be constantly growing wider. The wants that have to be supplied are, as yet, scarcely guessed at. The ground has, so to speak, been only scratched, and the mine which it covers may, for present purposes, be set down as inexhaustible.

Very few of those to whom this new career is proposed are at present qualified to follow it. Already the number of women who have received anything like a thorough and complete education is quite inadequate to the demand. It is plain that if this deficiency of competent teachers continues, it must be fatal to the success of the movement. Endowments may be devoted to it, and the growing sense among parents of the value of education for their daughters may fill every place in the public schools, and lead to the foundation of private schools in rivalry with them; but neither of these results will have

any real or lasting effect, if there are not competent teachers in addition. The future of girls' education, and with it the opening up of a new career for women, depends upon this want being supplied, and supplied promptly. As regards this aspect of the question, the Endowed School Commissioners are powerless. They can, under certain circumstances, found schools for girls, but they cannot found training-schools for the teachers of girls. Nor can the existing girls' schools, even when they are really good, discharge this particular function. A girl's education ordinarily ends at eighteen, and if she is to be a thoroughly competent teacher, she needs to be preparing for her work not merely up to eighteen, but during the three or four critical years that follow. It is an open question how far the education of girls generally will be prolonged beyond the age at which they take their place in society, but it is not an open question whether girls who intend to make teaching a profession will need a longer preparation for their work. Something in the nature of a university course must be provided for them, before they can make any good use of the chances which fortune seems at length to have in store for them.

* * * It will be seen how large and how promising is the opening which educational work is about to afford to women who have the capacity and the training to take advantage of it.—[*The Spectator.*

STRENGTH OF CHARACTER.

It is not words that produce an effect, but strength of character or emotional power lying back of the words; therefore, the teacher should not seek new and forcible expressions, but rather cultivate the character which gives force to ordinary expressions.

It is one half of school government to expect obedience, so that the teacher succeeds best who expects success.

The expectation of obedience is the result of an inward force of character, which is the basis of a teacher's power over a class.

No teacher ever controls a class until he believes in his

ability to govern it. The power of faith has its basis in philosophy.

The teacher who governs well gains more by waiting than by talking. Many words are an indication of weakness, not of strength.

The teacher who deliberately says "I can and I will," supplementing resolution by thought and work, will ultimately overcome all obstacles to success.

Scolding, petulance, and constant resort to punishment, are indications of a weak character. Strength of character is that in the very *presence* of a teacher which a child feels, but cannot define.

The power of a strong character is not the roar of a cataract or the dash of a waterfall; it is rather the quiet but irresistible current that sweeps all obstructions before it.

Strength of character, emotional power, or natural ability to govern, is born with those who are born teachers, but others may acquire it by intelligent self-culture.

It is usually a fallacy that one teaches well, but governs badly. Disorganization and disorder in the class are the outward manifestations of a mind weak or in confusion. Such a mind cannot produce an orderly training of the intellect.

A Commission has recently been in session in Berlin to consider and recommend a purely phonetic system of spelling; and it is understood that the Minister of Public Instruction is ready to introduce such a system into the schools as soon as it is perfected.

There is scarcely a study in which more fresh, apt and delightful instruction can be given than in geography, and there is scarcely a study which is more uninteresting to pupils. A speaker in a recent teachers' institute neatly described the result of the present method. He said he once entered an intermediate school in Ohio, and suddenly asked the pupils in geography to point towards Hudson's Bay. A majority of the hands went up toward the ceiling of the room. Knowing it was near the upper part of the map, the pupils seemed to have the location somewhere in the sky fully settled in their minds.

The principal occupation of the people in many of our counties is farming. Is it not practicable to make the common-school course of study bear more directly upon this branch of business in agricultural communities? Even an elementary knowledge of Physiology, Chemistry, Botany, Natural Philosophy and kindred branches, is of incalculable value to farmers. Could we not dispense with the detailed Geography of countries that will never be seen or thought of after leaving school, or some of the abstractions of Grammar and Arithmetic that are of little practical value, and substitute for them the elements of the sciences that form the groundwork of all rightly-directed agriculture? Even as a matter of discipline these sciences can scarcely be considered of less importance than those studies whose place it is proposed they should take. A modification of the whole course of study in common schools cannot long be postponed, and it deserves attention whether the new course of study should not be so constructed as to promote the interests of our most important ndustry.—*Pennsylvania School Journal.*

The following pertinent assertions come from *The National Teachers' Monthly:* "Teachers are apt to talk too much in conducting recitations. Teachers too often neglect to teach their pupils how to study. The use of a dictionary or other book of reference should be taught. A good plan is to have children find, write and define ten words, giving credit to the one who is done first. It is bad to quell disorder in a disorderly manner, such as by jingling a bell furiously, or tapping with a pencil, or stamping with the foot, or whacking the table with a stick—the table is not to blame. We would advise teachers not to question children by throwing books at their heads; the children would be justified in replying by means of flying slates, and disengaged ink-wells. Schoolrooms should be seated so that the light shall strike in over the left shoulder."

Resolutions have been adopted in the Rhode Island Legislature, calling for information as to the expediency of giving instruction in the "industrial arts" in the high schools.

Mr. Phillips Jordell, late Fellow of Trinity College, Cambridge, England, offers two or more scholarships of £25 a year each, tenable for three years, to be given for proficiency in the Cambridge local examinations in December next, to girls who are preparing for the profession of teaching. Two or more similar prizes are also offered to women preparing for the same work. Mr. Jordell evidently understands the need of good common-school teachers.

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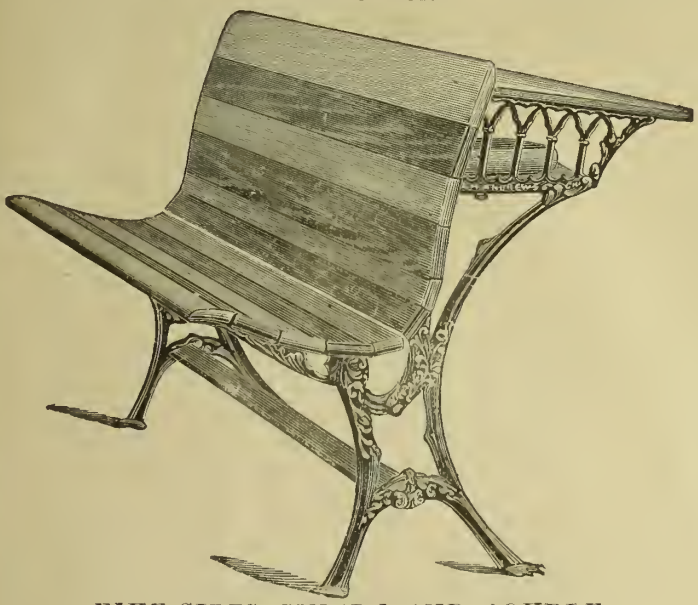

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Vol. XIII.] APRIL, 1876. [No. 10.

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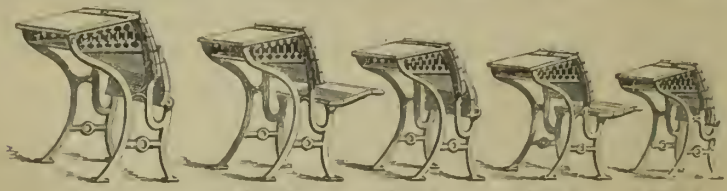

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CALIFORNIA TEACHER.

APRIL, 1876.

VOL. XIV. SACRAMENTO. No. 10.

SUPERFICIAL EDUCATION OF FEMALES.

The "finishing" schools of the country, where young ladies are finally prepared for their debut into society coincident with their development into womanhood, are many of them regarded by the girls as the last remaining impediment to their emancipation from a long siege of trouble. Many of them do not take kindly to their so-called accomplishments, and regard their more substantial acquirements as superficially as they do the current fashions, of present importance only—a traditional custom of mysterious and inexplicable purposes, which next year, or the one following, they will strive to forget as a nightmare of the past. Their teachers, in very many cases, have themselves been reared with no thoroughness in the most useful branches of knowledge; they have a natural distaste for them, and impart what they know in a merely mechanical manner, closely adhering to the text-books. On the other hand, the accomplishments of music, dancing, painting, the languages, and others of lighter grade, with deportment, are brought to the front with such manifest belief in them as making the young lady every way eligible for the position she is to occupy in life thereafter. The scholar can hardly fail to

regard all her previous education as elementary, preparatory, and something that may now be shelved for all time How false and mocking this pernicious system of training is, can only be fully appreciated by those whose necessities have compelled them to fall back upon their supposed accomplishments as a passport to daily employment. And even those whose lives never bring them anxieties as to deprivation of bodily comforts, often find, as they grow older, that their accomplishments alone leave them with unsatisfied longings at a comparatively early period of their maturity. The great mistake is, that they are given a primary importance in the education of a woman, whereas they should always be subordinate to those solid branches of learning which are not only perennial sources of pleasure in maturity, but which in themselves create new and healthful thought, largely increasing the stores of knowledge. Beyond this, too, no matter what station in life the woman is allotted to, her acquirements give her a power, influence, and a never-failing satisfaction, which the possession of accomplishments alone can never give Whether rich or poor, her life is a treasure to herself and a blessing to others, and very often, if poor, her mental acquisitions become a permanent source of income to her through an honorable, self-respecting industry, that only those with exceptional gifts in accomplishments can hope to emulate successfully. In America, more perhaps than in any other country on the globe, there is an almost absolute necessity for substantially educating our women, even if it were not every way desirable in other respects. No people are so universally given to business speculation and ventures as Americans, and none are so capriciously dealt with by fortune.

The man of wealth to-day may be next week impoverished, with a family of three, four, or half a dozen girls, whose accomplishments have not yet brought them husbands, and have only taught them how to spend money. The Surrogate's Court is full of unwholesome revelations of luxurious living, an empty shell of ostentatious appearance, families reduced to beggary, and the adult daughters having painful consciousness that the business world gives them but a cold welcome when they come for employment, bringing only their accomplishments. Accomplishments, it is obvious, should be supple-

mentary graces to the solid resources of the mind, and not, as is too often the case, substituted for them. They should be the gilding and ornamentation, the upholstery, of a practical education; and when, in advancing years, the brightness begins to tarnish and the lustre to take a more sombre tone, the real utility and durability of the mental temple will stand forth in all its beauty, strength, and vigor. The cares and burdens of life may have sent French and German to forgotten resting places, the piano may have been long since neglected, dancing a lost art, and other dispensable luxuries of a finished education existing only in memory; but there remain, what the Creator intended should remain, a clinging to the substantial education of life, with such growth and development as is admissible under often very adverse circumstances. What we have named as the luxuries of education, some of them, at least, may, if taste incline, be profitably pursued in later life; but many of them, it is quite plain, have claim upon the sensible adult woman, only as an alternative in her training, which may be dispensed with without being missed. There are no parents in this country who are so rich that they can afford to give their daughters an education wherein the accomplishments are in overwhelming proportion. Doing so, they incur a risk which may make future misery in an unhappy and unfortunate matrimonial alliance, or in a spinsterhood of especially impressive poverty and misanthropy.

The boarding schools and seminaries should educate for the home life, rather than for the drawing-room reception and the watering-place flirtation. When they essay to fit young ladies for the duties of life, why do they turn them off with a few superficial graces, which, in a few years, will wear off like the burnish of an oroide watch, leaving them unattractive and utterly helpless? If they are not married, their conversation and manner are mortifyingly incompatible with their years, and their little mannerisms have dropped into that dreaded groove known in polite circles as toleration. If they are married, with slight domestic attachments and with means to still maintain their accomplishments, they weary their acquaintances with platitudes and catchwords worn threadbare, and are treated with similar indulgence. There are, of course, the exceptions of infrequent cases, where beauty, rare humor, or

remarkable musical ability, give them an entirely fortunate and anomolous position. But it is well known that the majority of graduates from the so-called "fashionable seminaries" (a phrase, by the way, overflowing with irony), are not of this kind. They are taught that the showy and ornamental branches deserve their most serious consideration. If misfortune overtakes them, and they are compelled to solicit employment, their first efforts are, in most cases, to become governesses—in many instances the unhappy alternative of disappointment in matrimonial allianees—and they discover, as their acquaintanees have already done, that they never learned enough to be of any use as teachers.

There is every objection to the prevailing system in many of the seminaries, but criticism may be chiefly summed up under two leading heads—first, there is a want of thorough instruction in the essential branches of education, and a dearth of teachers possessing the qualifications to inspire a love for those studies; and, secondly, the deplorable fact of considering accomplishments as of primary importance, when special effort should be made to impress the scholar that they are secondary. Since there comes a time when the youthful cease to be young, and the beautiful cease to excite admiration, young ladies need a training by which they may mature and grow old with grace, dignity, and sweetness. To meet these inevitable exigencies of life, education should lay up its rich resources. The "good time coming" will have begun to dawn, so far as this aspect of the educational question is concerned, when we cease to hear such absurd phrases as "fashionable seminary," "fashionable education," etc. There lies the root of the whole difficulty. It is as true as it ever was that "there is no *royal* road to learning"; and one inference from the good, homely old saying is, that its real benefits must be secured in the best attainable manner by all created human creatures; and another is, that it has not the remotest possible connection with fashion. — *New York Journal of Education.*

HOW TO GIVE LESSONS ON COLOR.

Among the first inquiries of the teacher, as she is preparing to give a lesson on color, will occur questions similar to the following: What facts about color should I teach my class? How shall I present the subject of color to my pupils? What objects or materials do I need to illustrate lessons on color? Why do I teach color?

Even at the outset, there is some danger that you may take steps in the wrong direction. You will mistake the chief aim of these color lessons if you suppose that your object should be to teach the science of color. The first inquiry may lead you astray, unless you understand why you teach this subject, and keep the aim of your instruction in remembrance. You may fail to accomplish the end in view if you teach facts only. Let me remind you, that inasmuch as the child can learn to know color only through the sense of sight, you must place colors before your pupils, and lead them to distinguish and name the different colors.

It is important that children should obtain correct conceptions as to which of the colors are good *reds*, good *yellows*, good *blues*, good *greens*, etc.; therefore, care should be taken to show them good specimens of these colors during the first lessons. It does not matter which colors you select for the first lessons, provided you have the materials for representing them well. The color charts with the box of color cards, which are supplied to each of your schools, will furnish you with good materials for representing the colors with sufficient accuracy for the purposes of these lessons. To the chart of colors it is desirable to add colored cubes, colored silks, worsted, colored crayons, and, what would be better still, procure tubes of oil colors, or water colors, such as artists use, also a small palette and palette knife. Three colors will be sufficient. For *red*, get *carmine*, or *Chinese vermilion;* for *blue*, get *ultramarine*, or *cobalt* blue; for *yellow*, get *chrome;* and for making light colors, get a tube of *white*, which you may mix with either of the colors to make them lighter, as you desire. With these colors you can show your pupils excellent specimens of the three *primary colors;* and also illustrate the manner of producing *secondary colors*, by mixing two primaries for each secondary.

Having selected and arranged your materials for illustrating the lessons on color, proceed to show a color, as the *red*, by placing your color on the white palette and spreading it with your knife. Compare the red cards, red cubes, red silk, red paper, etc., with this, and lead the pupils to notice their resemblances; then compare with it reds that differ from your representative of a good red.

For the second lesson, place before your pupils the chart of colors, and, taking the red cards from the box of color cards, also reds of other materials, request the children, singly, to match the best red.

Proceed in a similar manner with *blue* and *yellow*, giving two lessons with each color. Afterward, give a lesson with these three colors, requesting children to match those named.

Lessons may be given in the same way with *green*, *purple*, *orange*, etc. In later lessons, the children may be led to distinguish and match light and dark reds, yellows, blues, etc., using various colored objects.

Such lessons as I have described may be given to children during their first year at school. Each lesson should be brief, occupying from ten to twenty minutes at one time. The first lessons, which ought to be short, should embody illustrations by the teacher calculated to attract the attention of the pupils. Subsequent lessons, which require more activity on the part of the pupils, may be longer. The order of giving these lessons may be stated briefly, as follows:

First—Showing by the teacher, and seeing by the pupil.

Second—Pointing out, or otherwise representing by the pupils, what was shown by the teacher.

Changes in the mode of illustrating the lessons increase the interest of the children in the lessons; and changes in the modes by which the pupils represent what they know of color, add interest to these exercises. Avoid, therefore, the use of stereotyped forms of giving the lessons which may lead to a mechanical routine. I will mention some modes for giving these lessons that, with a little thought on your part, will enable you to make such changes as will keep alive the interest of your pupils as long as it may be desired.

Place the chart of colors before the class; call out two pupils; let one take a pointer, the other a color card, and show

it first to the one holding the pointer, then to the class, while the one with the pointer tries to point to the same color on the chart—the class say "right" when he succeeds. As these two pupils return to their seats, two others may be called out and proceed in a like manner with other colors.

This form of the lesson may be changed by calling out three pupils at a time—one to select the pointer, one to select the card of the color named by the teacher, and the other one to take a colored crayon resembling the color of the selected card; and while the pupils with the pointer and the card proceed as before, the one with the crayon makes a mark on the blackboard to show that he has selected the right color.

For another exercise, let a pupil stand by the table on which a variety of colored objects are placed, and, as one member of the class after another names a color, he is to try to find it, and hold it before the class, which may say "right" or "wrong," as the case may be. When he fails to select the color named, promptly, the one who named it may go and find the color, then take the place at the table, while the first pupil returns to his seat. During this exercise, the aim of the class will be to name a color which the pupil does not know well enough to select promptly, and thus send him to his seat, while another takes his place at the table.

For another mode of leading pupils to represent colors, procure colored tissue or motto paper—red, yellow, blue, purple, green, orange—and distribute them among the pupils, so that each shall hold one color. The teacher may take one each of all the colors, and as she holds up one, the class may name the color, and each pupil having the same color may hold it up. Proceed in the same way with each color represented. Then the teacher may name a color, as "blue," and each pupil holding a blue motto paper may stand, holding the paper against his breast. Sometimes let a member of the class take the teacher's place, and call for those with the color named to stand. The monitor pupil will say "red"—and all having that color will stand instantly—and so on with the other colors. To distribute and collect these papers in an orderly way, they may be placed upon slates, and one slate passed to each row of seats.

For another mode of using these colored motto papers, dis-

tribute one to each member of the class as before. Let the two first pupils stand, each holding her colored paper in front of her; one may ask, "What is the color of my paper?" The one asked replies, "red," or "blue," as the case may be, and at once turns and asks the pupil next to her, "What is the color of mine?" She answers, and in turn asks the next the color of her paper. In this manner, the questions go around the class. Should a pupil asked fail to give the correct answer promptly, she must take her seat, and the one that asked the question will repeat it, to be answered by the next in order.

These different modes of conducting the lessons on color may be changed once in three or four weeks, as the interest of the pupils seem to require. By these changes, the pupils will not become weary of the lessons before learning all that is aimed to be taught by them. The children should also be encouraged to observe the colors of flowers and other objects, at home, and to tell the name of the colors thus observed. With young children, the color lessons may be given daily, or every other day; while with more advanced primary pupils, one lesson each week will suffice. In each case, both the length of the lessons and their frequency should be adapted to the other school exercises.—*New York Journal of Education.*

GRADATION AND CLASSIFICATION.

No subject has attracted more attention during the past two years than that of Gradation of Schools. It is claimed that the "Graded System" cripples the advancement of pupils, in that it prescribes a uniform rate of progress for pupils of different degrees of ability, and determines this uniform rate by the ability of those who possess the least mental activity. It is further claimed, that it deprives the pupils of the best labors of their teachers, since the teachers are not at liberty to use their individuality, but must work after a uniform plan prescribed by some higher authority. Still further, it is claimed that the system demands certain Procrustean tests in order to advancement. A school organized under such a system as is in the mind of the objector, may be represented somewhat

after this fashion. A building has several rooms of equal size. Each room has the same number of seats, varying in hight to suit the growth of those who are to occupy them. Between the rooms is a close partition, having in it one door. As the result of a thorough examination, each room is filled by pupils of equal attainments. The doors in the partitions are then closed and bolted. Each pupil then has placed before him a certain number of pages of a Reader, a Speller, a Geography, an Arithmetic, etc., more or less of these, as the grade demands. The teacher has in her hands definite instructions as to the work she must do, and a prescribed plan for its accomplishment. Her instructions are faithfully studied, and the progress she makes in their accomplishment is daily compared with the calendar. Upon a fixed day, the door between rooms is opened, and all who can give a prescribed per cent. of correct answers to questions drawn from the text books within the limits of their grade, and propounded by the stern examiner in the doorway, pass through. All others are sent back to go over again the prescribed course. The door is again bolted, and remains closed for six months or a year, more or less.

Such a theory of the Graded System has, I regret to say, to a limited extent, the foundation of fact. The total annihilation of the system is demanded by the objector. The walls of partition must be broken down; pupils and teachers must be left free to rove at will over the whole building, picking up here and there such topics of study as best suits their fancy. No classification must be attempted, for thus the individuality of the pupil would be sacrificed to the minimum ability of the class. Under such a want of system, those who need the least attention secure the most, for the brighter pupils are most attractive to the teacher, who is not hindered from following her own inclinations. Some pupils will, of course, progress more rapidly than under the rigid system supplanted. Many weak ones will still remain timid, distrustful, and stagnant. Inefficient teachers will be well pleased, for no figures will be brought to prove their inefficiency. They can spend most time upon that which is best understood, whether it be most important or not, and no incentive to study and self-improvement is felt.

Can the evils that are possible to the Graded System be corrected without the entire destruction of the system? If so, will the good that remains compensate for the effort at correction?

The answers to these questions must help to the solution of a problem now widely discussed.

Individual instruction lacks the stimulus of emulation. Every child does better if stirred to effort by the competition of his fellows. Within reasonable limits, numbers improve the scholarship of the individuals in a class. Each is helped in his own thought by the different phases of thought presented by his mates. So far as each may be helped and none hindered, classification is an advantage.

In most cases, instruction may be given as successfully to a class of about equal attainments as to an individual. In other words, the instruction given to an individual pupil loses nothing of force to the individual if heard by many others, and is of as great value to each of the many as if given individually. Economy, therefore, favors classification, if class bands are elastic and flexible.

The possibility of higher attainment, which gradation makes apparent to a child, serves as a healthful stimulus to study. The strength given by an achieved success in passing a step higher is not of small account. The opportunity afforded for adaptation of teaching talent to its best field for labor, is one of the strongest arguments in favor of gradation.

Such are some of the prominent advantages of a graded system. Over against these may be set the danger of crippling the individuality of the child by binding him down to the speed of the least active in his class.

The advantages are inherent in the system. If the danger be equally inherent, the system should be discarded.

But it appears to me that the danger lies in improper administration, and may be entirely averted.

This much must be premised. Close gradation and classification demand large numbers of pupils. It has been assumed that what is good for a school of one thousand pupils, is of equal value to a school of one hundred. This assumption has led to great abuses. The closest gradation is profitable only in cities and larger towns where there may be easily found as

many pupils of about equal attainments, as it is proper to put under the charge of a single teacher.

Some machines employed in the manufacture of material products are so nearly automatic, that they may be trusted to do the work assigned them, even in the hands of unskilled workmen. Many who have administered our educational system, have assumed too close an analogy between material and intellectual affairs, and have put the Graded System into the hands of teachers with the thought, either expressed or implied, that its machinery is perfect, and needs only to be set in motion.

Machines may be the masters of material, but they are servants of mind. Since they are the product of thought, they must always subserve thought. Hence, any system of appliances in educational work must be servant under the control of a thoughtful teacher. The teacher who declares himself but part of a great machine, at the same time declares his unfitness for the place he holds. A clearer head and a sounder discretion are needed in a graded system than anywhere else. Still further, let it be premised that certain foundation studies are universally agreed upon as essential to a sound education. No one questions the importance of reading, writing, and ciphering. The value of geography and history is well nigh universally admitted.

What then should be the prominent features of a system which shall furnish all the advantages possible, with the least liability to danger?

1. It must provide for thorough instruction in the fundamental studies of an education, with due regard to their relative importance and insuring the best results within reasonable time.

2. *Results* should be demanded, leaving *methods* to the discretion of the individual teacher.

3. The utmost flexibility should be permitted, so that natural differences of capacity may have full consideration—and that the advantages or disadvantages of the pupil's home surroundings may be recognized.

4. At points in the course of study, tests should be applied which shall determine the *status* of the pupil—first, as to his mastery of the topics passed over—and secondly, as to his

relative standing with others of his class. These tests must be solely in the interest of the pupil, and never for the benefit of the teacher. Properly applied, they furnish the pupil with knowledge of his acquirements, and serve as a stimulus to future acquisition. They should not be of regular occurrence at stated intervals, but at any time when the good of the pupil seems to demand them, either for information as to his present standing, or for spur to his ambition. They may touch but a single topic, as in weekly or monthly reviews, or they may embrace the whole range of topics, as in examinations for promotion from grade to grade. The examinations for promotion should differ from reviews only in the extent of the review and in the number of topics reviewed.— *Western Journal of Education.* (*Continued in May No.*)

HOW I SPEND MY LEISURE TIME.

Having been requested by one of the editors of this journal to prepare an article, I think I may do the cause of education some service, and perform an act of kindness to my fellow teachers, if I tell you "how I spend my *leisure* (?) *time.*" If, after reading this article, you conclude that it is not much of a kindness, I shall not be surprised; nor shall I wonder if you decide, as I long since have done, that the teacher has no "leisure time," *in the narrower sense of the term.* Let me say to you, in the beginning, that I am not a magazine-writer, and shall depend entirely upon your appreciation of my desire to do you a service from pure love of that of which I write; but I hope an experience of sixteen years in the school-room has given me some practical knowledge of the cares and anxieties of the teacher; and I certainly have a very warm sympathy for all earnest workers in the cause of intellectual development in any direction; so that, if you are trying to improve in any specialty outside of your professional routine, you may take a hint or two from my little recital, that may be of benefit or encouragement.

Some years ago I became convinced, after carefully examining the subject, that teaching alone, from its comparative

amount of routine work, and the constant association of teacher and pupil, an association from which the teacher could hope to get little new mental strength at best, had a tendency to narrow the mind, and dispose it to a more limited range of thought, than almost any other profession. My conclusions rested upon the want of *general culture* among the mass of teachers, where I did not see that broad enlightenment which, it seems to me, the nature of their occupation imperatively demands. I found, as you will find, upon close scrutiny of your fellow teachers, that a large majority of them had very limited knowledge of the great world of natural forms about them. Trees, plants, flowers, fishes and insects, were such and nothing more. They but served to occupy space in an unstudied landscape, which had no *special features.*

I did not see among pupils such a disposition to inquire into the nature of the various facts about them, as it seemed to me ought to be the case if education were properly conducted, and the pupil taught to look for causes as well as to observe effects; and so, putting this and that together, I fell to wondering if I had not made a great mistake in my own education, and that of my pupils in consequence; and from this to planning what I ought to do; and after a while I worked out a little scheme for future operations, which I will relate to you in a plain manner, and tell you about its results, pointing out, faithfully, its weaknesses, and not unduly exalting its successes.

Looking around for means of self-improvement among thistles, briers, mullen-stocks, woodland thickets, ponds of stagnant water, or flowing rivers deep and rapid, may not be so suggestive of comfort as a handsome volume and a cosy library; *but there I went,* and there I still stay, well content, vigorous from the welcome exercise, and well repaid for my labor by some acquaintance with many wonderful beings, whose life economy was a blank to me before.

You know that every rotting log, stagnant pool, or patch of rasping thorns, is a sort of life-center, around which cluster many living creatures, each having its life estate in some part or property of its abode. I chose, as objects of study, the shells and insects, and went to work with a will. I had long known, from school-room experience, the only conditions of successful labor; as who that has had the experience, does not?

Besides, I wished to try my plan thoroughly, so, as I have said, I labored hard. Now I must expose a weakness in my scheme. I undertook *too much.* It is vastly better *to do a little well,* than *a great deal poorly;* a motto that ought ever to be present in the mind of a true teacher. I should have done much better to have confined myself to the insects or shells alone, and perhaps to a single division of these subjects But of this anon You can take a hint, and do as you see fit, for if you are very enthusiastic, very earnest, and very strong to work, you will be surprised at the labor you can accomplish in a single year.

But how to begin the work? The teacher habit was strong. I went *to books!* I found my limited list contained nothing serviceable, and upon inquiry I learned the additional fact that many books on natural history are beyond the teacher's limited means; so I went at my work alone, and without books.

How well do I remember my first day spent in collecting! A glorious June day, four years ago! The sun was hot, the water warm, and I walked down to the river side, and took a mussel from the sand! Its yellow foot, thrust out between the valves, was buried in the sand, and as I plucked it from the water, was gently and slowly withdrawn. *I had never taken a living mussel in my hand before!* The creature was as new a creation to me as are the gorgeous shells I have since received from Australia and the further islands of the east! Now I felt the reward of a little labor to be so rich and full! I turned my prize about; I saw its valves ornamented with beautiful green lines; its curious hinge; its graceful outline; and I felt that it was to me, at least, a treasure I waded further into the water. The clean sand was furrowed in many directions by the tracks which the mussels had made, and I picked them out, until I had a basket full of several kinds, all fresh from the clear river water. I only wanted the shells: the animals I had no means of studying; but, when I reached home at night, and dropped my treasures in the boiling water, that I might remove them, as I had seen people do when cooking the sea-clams, their wonderful structure seemed somewhat to foreshadow the pleasure I have since had in studying the animals themselves. When they were removed from the shells, I found a variety of beautiful colors and a pearly polish inside

my specimens, more beautiful than I could have imagined. I washed my shells clean, wrapped them in papers, and left them to dry. *They formed the nucleus of a collection that now numbers more than five thousand species, and contains shells from every important country on the globe!* If you wonder how this has been done, I will say to you that I have been teaching all the time; I have not neglected my school work. *I have not wasted my time.*

Now the passion for this labor grew upon me, and I must, I fear, expose another weakness. I was in too great a hurry to amass a wealth of *species*, and did not study them sufficiently; so that, now and then, I correct my errors of the past by bridling the ancient *furor*, and proceeding with greater moderation.

But, teacher-like, and justly, too, you ask me what was done for my pupils? I will tell you faithfully. I took them into my confidence, told them my plans, got them to work, took them with me on little excursions, and they helped me and I helped them. To-day several of them have beautiful little collections of shells or insects, of which they know the names and habits, and about which they can give you more real information than many of the so-called *naturalists*. It has given them, thus early in life (for they are but boys, you know), knowledge that was a blank to me ten years after I had reached the estate of man, and has familiarized them with nature in some of her "visible forms"—building up about their thoughts a rich and new experience, that gives a greater zest to study. Besides, here are the best and fullest rewards of study for boys or men, in that which creates zeal!

Have I said enough? If so, and you desire to try, adopt a choice of studies—shells, insects, or plants—and begin collecting them. The shells, being easily preserved, will serve you best. If you have no means of getting names, nevertheless collect and study them. You will begin to see differences at once, and your educated eye will grow stronger with time. By and by you will get correspondents who will name your shells, and will be glad to exchange specimens with you. You will find the work can be done all the year round. You will get physical vigor, mental strength, and amass a "collection" that will interest your friends. But above and over all con-

siderations *to the teacher*, is the fact that you are doing something to broaden culture, to open up new avenues for thought and illustration in your daily avocation, and to lead your pupils to a fountain, from which they can get no polluting draught.

Above all things, do not flag in zeal! To-day, with the sun shining in at my window, the impulse to go to the hillsides and woodlands is almost irresistible, and this, after four years of such work, proves that I am fast becoming a devotee. So to-morrow, my boys and I will go again.—*A. G. Wetherby, in Western Journal of Education.*

CRAMMING WITH A FEW STUDIES.

VARIETY GIVES THE BEST MENTAL DISCIPLINE.

The objection is often made that too many things are now taught in the public schools. It is all cramming, we are told: essentials are sacrificed to mere accomplishments; the attention is divided between so many studies, that mental discipline is impossible; the health of the pupils is jeopardized by overwork.

Thinking to settle the whole question at once in their favor, the objectors enumerate, with a great flourish, the studies pursued in primary, grammar, and high schools. Behold, and be confounded, say they. To make their catalogue as formidable as possible, they sometimes enumerate as separate studies the subdivisions of a study. For example, in the place of natural philosophy, they mention as independent studies, hydrostatics, hydraulics, pneumatics, and so on. It is evident that they also think to frighten by the length of the names they put into their catalogues, as though the difficulties of a study were due to the name by which it is called. To be moved by such a pitiable argument, one must be very ignorant of the subject under consideration.

It seems to be forgotten that the time allotted to the enumerated studies covers at least a dozen years of school life; and that these studies are to be taken, not all at once, but in a certain logical order corresponding to the intellectual develop-

ment of childhood and youth. It also seems to be forgotten that it is the business of the public schools to teach the elements of those things required by the great majority of the people; not to impart exhaustive instruction in any branch of knowledge, not to prepare for any particular occupation.

We are of those who believe that in twelve years, reckoning from the age of five, a great deal can and ought to be learned by the average scholar. The public schools have not yet shown what can be accomplished. During the last twenty-five years too much attention, comparatively, has been given to the organization of the means of instruction, and too little attention to the subject-matter taught.

Fortunately, the elements of almost every study can be best learned in childhood and youth. This is a vital fact the educator should never ignore. Besides, if the elements are not there learned, most persons, however great may be their subsequent necessities, will never learn them. On the contrary, if they have acquired the elements in their school days, they will afterwards constantly add to this elementary knowledge as their wants demand. Any one can verify these statements by a slight investigation among his acquaintance. Indeed, the great task is to make a right beginning in any study. How important it is, then, to ground all persons early in the elements of those studies they will have occasion to apply in active life. We have previously expressed our opinion as to what these studies are.

And now a few words about cramming, which is undoubtedly a great evil. This comes from an attempt to teach more in a given time than the mind can digest and assimilate. But as some minds can digest and assimilate more rapidly than others, it follows that what is cramming for one is only healthy consumption for another. There may be as much cramming with one study as with a half dozen. The number of studies has little or nothing to do with it; quantity, not variety, is the main characteristic of cramming. Take a geography containing, as some geographies do, three times more than it ought; why may not there be quite as much cramming as with three different studies, presenting no more in quantity to be learned? Indeed, we venture to say, that no worse in-

stances of cramming can be found than in those public schools where a very few studies are pursued. Quantity, in many of them, is substituted for variety.

So much, however, has of late been said against cramming, that there is a growing tendency to substitute the starvation process for cramming. In some schools the pupils are now kept on such a restricted regulation diet that an enormous excess of time is allowed for digesting and assimilating each spoonful of gruel. No one is permitted to forage freely. In other words, the pupils do not accomplish in a year what they should accomplish in three months. From such schools boys and girls are constantly going out before they have learned all the simple processes of arithmetic; and oftentimes before they have learned to write well the capital letters of the alphabet. Those who continue in the schools are apt to become intellectual dawdlers; they certainly acquire no ravenous tooth for learning. Each year the teachers of these schools grow stronger in the faith that children can't learn anything, and so make the school gruel weaker and weaker.

Starving, no less than cramming is to be avoided; the appetite for learning is increased by ample gratification, not by a lean diet. It may here be observed, that those who urge a return to the old curriculum seem to forget what things besides reading, writing, spelling, arithmetic, geography and grammar, were taught in the public schools twenty-five years ago. In a large part of the public schools then attended by the older scholars, as well in the country as in the city, algebra, natural philosophy, physiology, chemistry, history, and some book on government, were studied. It is safe to say, we believe, that some knowledge of the studies enumerated was acquired by a larger proportion of those who attended the public schools twenty-five years ago than acquire such knowledge to-day.

The new studies which have been added of late to the common school curriculum, and systematically taught, are music and drawing. But music was quite generally taught in Winter evening schools twenty-five years ago—schools which have now nearly all disappeared. The music now taught in the public schools does not yet more than make amends for what has been lost. And so drawing, one of the most essential

studies, is really the only new study in which a considerable portion of school youth now receive systematic instruction. With a lengthened school year, with improved methods in teaching, with judicious pruning of old studies, there need be no trouble about finding room for drawing, and for several other things that ought to be put into the public schools.

There is another thing of great importance that is overlooked by those who have so much to say against cramming, and who hold that the mental discipline imparted by the public schools would be better were there fewer studies in them. It is the effect upon the mind, produced alone by variety of knowledge and breadth of culture. To illustrate: If a pupil is drilled in arithmetic eight years, through the primary and grammar grades, he will know less of arithmetic and be much worse in the matter of discipline than if the time had been judiciously divided among arithmetic, algebra and geometry. Different studies exert a mutually beneficial influence upon one another. So we find that, as a rule, the best scholars in the prescribed studies of any school are those who know something outside of the curriculum. The pupil should, of course, take but a few studies at one time; his mind should not be distracted by a great daily variety, and need not be, though so large number of things be studied in the course of a dozen of years. No more time should be given to any study than is clearly justified. Suitable variety and alternation in studies promote, instead of endanger, health — directly, the health of the mind; and indirectly, that of the body.—*New England Journal of Education.*

"HE CALLED ME A LIAR."

The little wood-colored school house was mounted on pegs, as if on tip-toe to catch a glimpse of the unusual scene. The Autumn days were shortening, and the "sere and yellow leaf" was winging its zig-zag flight from the almost naked boughs to the earth. It was the afternoon recess. Upon the playground, the ordinary games were abandoned, and the boys had

rushed with one accord to a corner of the yard where a youthful Hector and Achilles were engaged in mortal combat.

The average boy has an exaggerated, but peculiar, sense of honor. This terrible encounter, which was thrilling all the remnants of our inherited barbaric natures, was an affair of honor. No chivalric gentleman of the olden time ever gazed across ten paces into the ominous muzzle of another chivalric gentleman's pistol, with a keener appreciation of the demands of the code, than had these two boys who were valiantly tugging at each other's hair.

The teacher's bell put an unceremonious end to the sanguinary conflict, and we reluctantly marched to our customary places in the school-room.

The troubled face of the teacher showed that he had been an unwilling spectator of the duel. No anger was manifested in his kindly countenance, but it was evident that the affair caused him more pain than he could well express. Nothing was said, and the afternoon classes were soon at their customary "twice nine is eighteen," or "John is a proper noun, masculine gender, etc." The faces of the combatants began to lose their sullenness, and the hard lines slowly faded away. At last, four o'clock made its tardy appearance, and expectation was alive. The teacher was a new-comer. The traditions of the school had never been violated. From the remotest period there had been fights, and the traditional flogging of both was of course expected.

The boy who could vindicate his honor on the play-ground, and take his whipping without a tear, was a hero; it was a glory for us smaller boys to be on familiar terms with him. Even the lad with a bloody nose who stoically accepted his inevitable share of the punishment, was but a lesser hero.

"Books aside!" When the rustle of leaves and the thumps of sundry slates had ceased, we sat with beating hearts to see the result of the fray.

"Well, John, what was the trouble?"

"He called me a liar, sir, and I struck him," said John,—and his face flamed with passion. John's air of defiance plainly said, "And I did right, sir, and you can punish me if you wish, but I will do the same thing again under the same circumstances."

Mr. G. understood the look. "And were you a liar, John?" "I, a liar, sir? Why—why, no sir," with some hesitation.

"Then why did you strike?"

"Why, sir, I allow no one to call me a liar," responded John, hotly.

"I do not quite understand your reason, John. If you *had* told a falsehood, it would be exceedingly discourteous, to say the least, on William's part to have told you so in such a positive way, and he would have been guilty of a breach of good conduct that must have lowered him in the estimation of all good people, while you would have but made a bad matter worse. If you were not guilty of falsehood, then William was, and you made yourself a fellow law-breaker by striking him. If a man should so far forget what constitutes gentlemanly conduct as to call me a liar, I should be showing too much respect for his opinion if I resented it."

This view of the case was new to John, and he could but feel that in the eyes of his fellows he was, in some mysterious way, losing the glory of the occasion.

"He who is right needs no such vindication, John. Let's leave the fighting to the brutes. Will you be happier with the consciousness that you have been the slave of your temper, that you have set this sad example of wrong doing before your mates, than you would have been in the thought that you were right, and that you had overlooked the coarseness of another? The *gentle*men are what their name implies. Then, boys, isn't there a better way too of adjusting your difficulties, than by a disgraceful exhibition of the worst there is in you? Did your fight settle the question of your honor? Think it over boys That's all. School is dismissed."

We went out into the still streets of the village a thoughtful group of boys.

Twenty years have slipped away, but that little speech has been imperfectly repeated to many a belligerent Young American, with good results. I have forgotten whether Mr. G. taught me the mysteries of Long Division and Greatest Common Divisor, but I remember the lesson of that Autumn after noon, in the wood-colored school house.—*Illinois Schoolmaster.*

SPELLING.

The amusement called a "spelling-bee" has the advantage of being cheap and easily got up, and it may be useful in helping to shake off the common aversion of Englishmen to opening their mouths in public. Almost the only objection is that, unless tolerably big words are used among fairly-educated people as tests, there cannot be much risk at failure, and people who find that they can spell big words correctly may be too apt to make familiar use of them. The notion, however, that correct spelling is to be expected from those who have had ordinary opportunities of education is modern, and it would be easy to attach too much importance to the want of it. The Duke of Marlborough's letters are always quoted as an example of the deficiency of a remarkably able man in knowledge which is now required of every school-boy. But it must be remembered that even in the polite age of Queen Anne, people wrote far less than they do now; and as long as words are used chiefly in conversation, it is difficult to say precisely what is right and wrong. There are, indeed, and for a long time past have been, certain books of which one would be ashamed to confess ignorance, and which could not be read attentively without learning to spell as many words as would serve the ordinary purposes of life. As an indication of want of knowledge or of interest about such books, incorrect spelling might reasonably be thought disgraceful. But if the failure only occurred in polysyllabic words, we should be disposed to view leniently an indication of imperfect study of certain newspapers. We have before us a provincial journal, which, in describing a spelling-bee, states that "it was discovered that an individual had escaped an interrogatory by changing his seat." It would have been difficult for the writer, who had probably been at the trial himself, to consent to say that "it was found that a person had escaped a question." Long words are like fine clothes. If we have them, why should we not make use of them? We do not know the precise meaning of "bee," but, if we conjecture rightly, we shall expect soon to hear that an "orthographical conglomeration" has been held in some provincial town. It is wonderful,

if we come to think of it, how much force and charm of language may be gained without ever troubling the long words at all. The beautiful lines beginning, "Drink to me only with thine eyes," have been often quoted to show this. Another instance is the speech of Hamlet, "To be or not to be." Or take the text of Jeremiah, which denounces one of the kings of Judah, "O earth, earth, earth, hear the word of the Lord," etc. Or the words of the burial service, "Man that is born of woman," etc. Or Pope's "Universal Prayer." Or several stanzas of Gray's "Elegy." Or the lines in which Scott describes his countrymen's stubborn fight in Flodden. All these, and many more of the best-remembered passages in English literature might be searched in vain for words hard enough to set at a spelling-bee.

In some remarks on spelling, which were written about forty years ago, we find the sensible rule laid down that the contemporary usage of persons of cultivation is the authority to which each person who aspires to write correctly must defer. The writer gives some examples in which variety of usage existed at that time, and if he be accepted as sufficient authority, it follows that, at the time he wrote, "complete" and "compleat" were equally right, or at least neither was wrong. But we fear that, if the latter form were produced at a "spelling-bee," shouts of laughter would proclaim that the respondent's chance of the prize was gone. In Ainsworth's Dictionary of 1751, both "complete" and "compleat" are given in the English-Latin part, although it would appear that the latter is preferred; and in the Latin-English part, "completus" is rendered "compleat." In the middle of the last century, "expence" was usual, and we could not now say that it is exactly wrong, although we should certainly write "expense." The writer of forty years ago gives us another example, "allege" and alledge," but usage has now determined against the latter form. The dispute between "inquire" and "enquire" is not yet settled, nor could we say that "connection" is wrong, although we should write "connexion." It appears that at the "spelling-bee" the word ecstatic was deemed to be wrongly spelt with "x," but this was usual in the last century. If the competitors were taken from the working class, we should not be surprised at the form "steddy" being produced.

In the middle and upper class, this would not be likely, yet we find this form, and not "steady," in "Pope's Works," printed in 1766. The same book shows that "sallad" was then usual, and "smoakless." We find, also, "œconomy," from which, since it became political, a letter has been retrenched. We also find "chearful" and "develop." But it is surprising to turn over many pages of this edition of Pope without finding more than very minute differences from the spelling of the present day.

A knowledge of Greek and Latin must save competitors, in spelling, from many pitfalls. If the ladies who gained distinction were ignorant of these languages, they must have been gifted with retentive memories. Take, for example, such a word as "sympathetic," and it would seem quite possible for a person who knows no Greek to put "i" for "y." And in "metamorphosis," there would be an opening for "f." A mistake would be easy in "internecine" or "parallelogram." It might, perhaps, be said that it would take longer to learn Greek and Latin than to learn spelling as a mere collection of instances without principles, but the latter would be very hard work. It is difficult enough for anybody to learn English spelling, because of its irregularity. The rule which compels us to write "succeed" and "precede," is merely arbitrary, and even some educated people have to think twice before putting on paper "believe" and "receive." We have now settled to write "surprise," but in the last century this and other compounds of the French *prendre* were written with "z." A place in a spelling class ought not, we think, to be lost by using "z" in any of these words. But a person who knows French would prefer to write these words with "s," just as a person who knows Greek would write "analyse," although we find this word spelt with "z" in the edition of Pope before referred to. The word "schedule," which was lately set, is a trap, at least if it be pronounced, as some people pronounce it, softly. It is usual, in correspondence, to speak of an "inclosed" letter, but Parliament still passes "enclosure acts." Such words as abridgment and irreconcilable are thought by many people to want another "e," and whatever be the correct rule, it is certainly convenient to drop an unnecessary letter. The old-fashioned pronunciation of "obliged" may have led many into

what can hardly be called an error. As for "honourable," and other words of the same class, there will perhaps never be, and there certainly is not, agreement. We should write of the "license" of the press, but acts of Parliament require publicans to take out "licences." It is perhaps desirable to be strict in spelling, because pronunciation varies, and if spelling followed it there would soon be no standard of correctness in speech. But it is possible to carry accuracy to an extreme. There is a wide difference between spelling "supernumerary" without its penultimate syllable, and spelling "postillion" with one "l." The former, if not carelessness, must be gross ignorance, like that shown in spelling "quadrilateral" with an "o" in the last syllable, or "commensurate" with "o" instead of "u." Here, again, a small knowledge of Latin would have prevented mistakes which seem to have arisen from an untutored ear listening to a vulgar tongue. A person who said "quadrilatoral" or "commensorate," must have escaped the influence both of school and society. We saw lately a lady's letter, in which "areas" was written for "arrears," and it might be charitably thought that ignorance of the thing made her unfamiliar with its name. In the strictest age of pleading and practice at common law, the principle *idem sonans* was applied, and we think the same principle ought to prevail to some extent in a "spelling-bee," but it is difficult to say how far. If this amusement becomes fashionable, there will no doubt be dictionaries expressly printed for it, with a set of rules, and it certainly would promote more accurate knowledge of our language. When an assembly receives the spelling of "ecstatic" with an "x," with shouts of derisive laughter, it is evident that many people have a good deal to learn. But the spelling of "cynical" with "le" at the end, instead of "al," shows ignorance of the meaning and origin of the word, and that sort of ignorance may fitly excite derision. The lady who had to spell "aurora borealis" could scarcely go wrong, unless she was very ignorant or very careless. When we have once heard and understood this word, it would be difficult to misspell it.

The popularity of these competitions in the United States is one of many fortunate circumstances of that country. It cannot be too often impressed on American speakers that when

they come to write they must add a "g" to the word they call "fixins," and that they must not spell "calculate" with an "i." It might be awkward if the manager of a "spelling-bee," either in America or here, pronounced words as he hears his friends and neighbors speak, and then applied the standard of some dictionary to the spelling of them. It appears that a "spelling-bee" has lately been "inaugurated" at Gloucester, and it is proper that a big word should be made to do duty on this occasion. This competition was finally decided on the word "ecclesiastic," and it may be inferred that the person who failed to spell it correctly had never heard it before, and did not know whence it came, or what it meant. Spelling such words as this is a test, not so much of spelling as of the general education and associations of the competitor—not that that is an objection to them. The same remark might be made on "millennium," with the addition that failure in this word would imply ignorance of Latin, which it is hardly expected that a commercial clerk should know. Some years ago a bet upon the word "reindeer" caused great excitement in the sporting world. It was alleged that the gentleman who induced a friend to bet on the spelling of this word, had looked beforehand at a dictionary. But, on reference to several dictionaries, it appeared that both "reindeer" and "raindeer" were recognized. It is stated that at Gloucester failure occurred at such words as, among others, "broccoli." Now, on referring to the first dictionary we have at hand (an English-Latin one of 1848), we find "brocoli." Yet it would appear that a competitor was disqualified for adopting this form. People of rather wider views as to language should, if possible, take the direction of these competitions.—*Saturday Review.*

A KINDERGARTEN IN ENGLAND.

By way of showing the rapid progress making in England, we publish the prospectus of the FRŒBEL SOCIETY FOR THE PROMOTION OF THE KINDERGARTEN SYSTEM. An examination of students of the kindergarten system will be held in London at the end of June, 1876, conducted by examiners appointed by the committee of the Frœbel Society. Those students who

satisfy the examiners will receive certificates of their qualification to become kindergarten teachers. The examination fee will be £1. Names of candidates should be sent on or before May 1st, 1876, to Miss E. A. Manning, Hon. Sec. of the Frœbel Society, 35 Bloomfield Road, Maida Hill, W. Unless twelve names be received by the above date, the examination will be postponed, in which case the fee will be returned. The fee will also be returned if, through unavoidable circumstances, the candidate cannot present herself for examination.

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GERMANY AND GYMNASTICS.—The Germans pay great attention to the regular practice of gymnastics, and especially since the prevalence of the warlike ideas of late years. The gov-

ernment of Saxony, desirous of assuring to its teachers the technical knowledge and moral influence necessary, have established at Dresden a normal school of gymnastics, which is under the direction of M. Kloss, who has organized the teaching of gymnastics in all the *lycecs* and institutions connected with the ministry of public education. Germany possesses at the present day nearly four hundred gymnastic societies; and an effort is everywhere made to give a military character to the exercises: iron batons are placed in the hands of the pupils, of a weight equal to that of the regulation musket of the army. The exercises are admirably graduated, and sometimes accompanied by singing, which gives to them an ardor and animation that can hardly be described. The professors of gymnastics in the German institutions are very enlightened men. The Germans, considering gymnastics a necessary and integral part of the scholastic course, will not admit simple gymnasts to the honor of teaching; the masters must have a complete education, and must have followed a special course at the gymnastic institution of Dresden or elsewhere, where they are not only practiced in the exercises, but are taught the best methods of teaching, how to establish a gymnasium and the necessary apparatus, and likewise the means to use in case the pupils meet with accidents while engaged in exercising. Music and singing form an important part of the instruction in all these institutions. In the normal schools, not only the use of various musical instruments is taught, but harmony, and even the history of music; and all the pupils are expected to perfect themselves therein.

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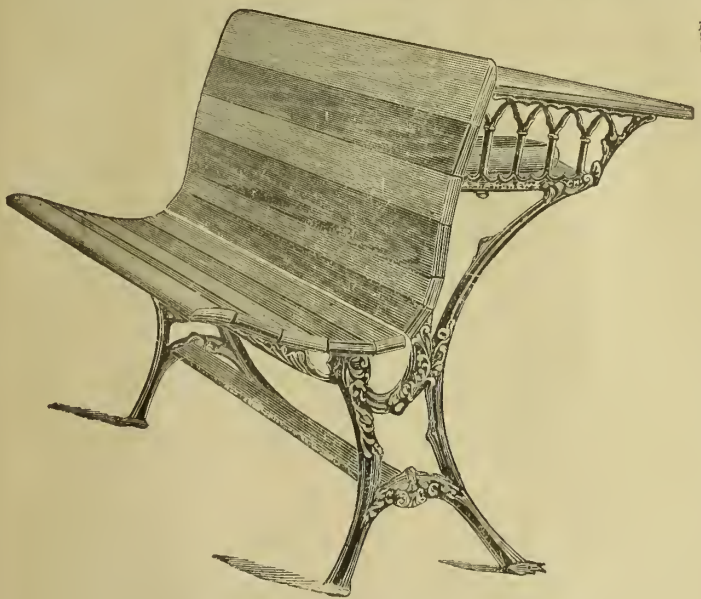

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DEVOTED TO THE

Educational Interests of California.

OFFICIAL ORGAN OF THE

Department of Public Instruction.

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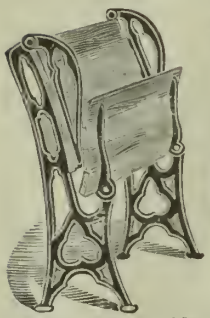

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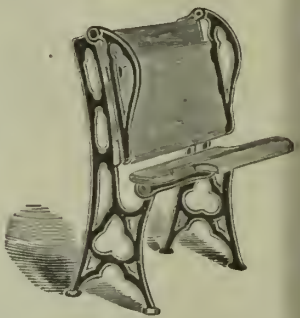

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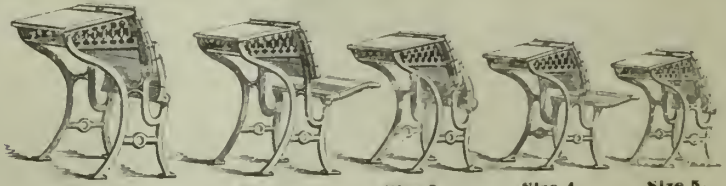

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THE

CALIFORNIA TEACHER.

MAY, 1876.

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OBJECT TEACHING—PRIMARY AND SECONDARY COLORS.

[*Notes from Lectures delivered before Primary Teachers at the Saturday Sessions of the N. Y. Normal College, by Prof.* N. A. CALKINS.]

In the previous consideration of color, your attention was invited to methods for teaching children to distinguish and know by name the most prominent colors. You were urged to use such methods for teaching this subject as will cause the pupils to make careful comparisons, to notice resemblances, and distinguish slight differences in colors. For the purpose of aiding you in accomplishing this work more easily and surely, I have described several modes of giving lessons on color, which will furnish appropriate exercises to aid in securing the desired training of your pupils in habits of accurate observation, as well as a knowledge of this subject.

Let me now remind you that your success in giving instruction upon this subject will depend largely upon the manner in which you use these methods. If you will receive them as illustrative lessons, rather than methods to be invariably followed, and after becoming familiar with their spirit and aim, if you will devise other similar exercises having the same end in view, but with a better adaptation of the lessons to the wants of your own pupils, and especially if your methods of conducting the lessons shall furnish the pupils abundant oppor-

tunities for showing that they understand the subject, success will attend your instruction.

I now propose to invite your attention to methods for teaching children to distinguish *Primary and Secondary Colors.*

In order that you may illustrate intelligently the lessons on Primary and Secondary Colors, you should procure, in oil or water-colors, *red, yellow,* and *blue,* selecting for this purpose *carmine, chrome,* and *ultramarine;* also, a small palette and a couple of palette knives. In addition to these, it would be well to get colored papers, colored cards, or color-cubes, representing the six colors—red, orange, yellow, green, blue, purple—also, good blue, yellow, and red crayons, and a chart of colors.

Since the methods of giving these lessons should be such as to awaken and secure an interested attention on the part of the pupils, you may commence the lesson by placing on the palette a little of the *blue* and *yellow* colors. After spreading these out, side by side, with the palette knives, request the children to name each of these colors; then proceed to mix these two colors together within view of the class, and request the pupils to tell what you are doing. When you have produced the *green* by mixing the *yellow* and the *blue,* ask the pupils: "What color do you see now on the palette?" "What colors did I mix together?" "What color have I made by mixing the *yellow* and *blue?*"

Next, the teacher should write on the blackboard the following: "Mixing yellow and blue colors will make a green;" and then require the class to read it two or three times.

Before showing the pupils how another secondary color may be produced, require them to show that they observed and now understand what you did to produce the *green* color. Various exercises may be used for this purpose. Some of these I will describe as illustrative lessons.

Call a pupil, to point out, on a chart of colors, the two colors that were mixed, and require the class to name each as it is pointed out; and at the same time let one pupil select the same colors from colored cards, or colored papers, and show them to the class; and another pupil select a colored card to represent the color produced by mixing the yellow and blue, and show it to the class; at the same time the pupil with the pointer may point to the green on the chart of colors. Continue this exer-

cise with different pupils until all appear to know the fact that green may be made by mixing yellow and blue.

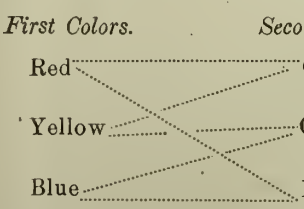
For your second illustration of secondary colors, place on the palette, side by side, *red* and *yellow*. After the pupils have observed and given the names of these, proceed to mix them together, as before, at the same time asking the class to tell what you are doing. When you have produced a good orange, request the pupils to tell what color you made by mixing red and yellow. Now, write on the blackboard: "Mixing red and yellow colors will make an orange," and request the pupils to read it two or three times. Next call out pupils as before, one to point to the red and yellow on the chart, one to select those two colors from the color-cards, and one to select a card to represent the color that was produced by mixing red and yellow. Continue this exercise as with the one for green.

For a third lesson on mixing colors, take red and blue, place them on a palette, and proceed as in the previous lessons, showing that these two colors will produce a *purple*.

For a fourth lesson on mixing colors, write on the blackboard the result of the illustrations in the three previous lessons:

Mixing *red* and *yellow* will make *orange*.
Mixing *red* and *blue* will make *purple*.
Mixing *blue* and *yellow* will make *green*.

Then call upon three pupils, each to select from color-cards, or other colored objects (without telling them the names of the colors), two colors that will produce another; also call upon three other pupils, each to select a color that would be produced by mixing the two colors held by each of the first three pupils; afterwards, the names of the colors mixed, and of those produced, may be written on the blackboard in two columns—thus:



Request one pupil to draw lines from the names of the colors that produce the *orange* to the name of that color; then another pupil to draw lines to indicate which two colors produce *green;* and one to draw lines to show which two colors produce *purple.* The pupils may now be told that the *first colors* are called *primary colors;* that the *second colors* are called *secondary colors.* They may also be told that *the primary colors cannot be produced by mixing other colors;* that each secondary color can be produced by mixing two primary colors.

For exercises to impress these facts upon the minds of the pupils, the teacher may name secondary colors, and request pupils to select the two primaries that would produce each. The teacher may name one primary color and a secondary color, and request a pupil to select the other primary to make the given secondary color. Various modifications of these exercises may be made by the skillful teacher that will be just as appropriate as those already described

The following method will be found a simple, inexpensive, and efficient way to illustrate the formation of secondary colors. This mode is the more valuable because it gives each of the pupils an opportunity of representing the same fact simultaneously:

Procure pieces of colored tissue or motto-papers, each about three by four inches. Select the best specimens of *red*, *yellow*, and *blue.* Distribute these papers among the pupils, giving to each one two different colors. The teacher may now take pieces of *yellow* and *blue* tissue-paper, place one upon the other, and hold them up toward the window, so that the pupils can readily see light through them; then request the children who have yellow and blue papers to do the same, and to tell what color they see through the yellow and blue papers. Request the pupils that saw the green color to stand and tell what colors were placed together to make the green. Proceed in a similar way with *red* and *yellow;* afterward, with *red* and *blue.*

For another exercise, call upon each pupil to look through his colored papers, and to tell what color he sees, also to name the two colors which were placed together to be looked through. Then call upon all who have suitable papers to show how *orange* is made; then call upon others to show how *green* is made; and others to show how *purple* is made.

Vary this exercise by asking pupils to show the two colors that will make green; then orange; then purple.

You can also illustrate the fact that secondary colors may be produced by mixing two primary colors with good colored crayons. You may find it difficult, if not impossible, to get a good *red* crayon, but you can obtain good *yellow* and *blue* crayons.

Take a piece of old white muslin, place it on a slate or a piece of smooth board, make a broad line on it, at least half an inch wide, with a *yellow* crayon, then make across the yellow a broad line with the *blue* crayon. By mixing these colors a little where they cross each other, a *green* will appear.

By making similar lines, crossing each other, with *red* and *yellow* crayons, an *orange* color may be made. By using *red* and *blue* crayons, a *purple* may be made. Similar results may be shown on the blackboard, by using colored crayons, but the colors will be less distinct.

A good exercise may be had for ascertaining how well the pupils remember the several facts that have been illustrated with the mixing of colors, by calling upon a pupil to take a red crayon and make two lines on the blackboard; then ask another pupil to take another colored crayon and draw across one of the red lines a color that should be mixed with red to make *orange*. Ask another pupil to take a crayon and draw a line across the other red one, to show what color should be mixed with red to make *purple*.

Let other pupils make yellow lines, and show how green and orange are produced. Blue lines may also be made, and the other colors drawn across them, to show the formation of green and purple.

Take care to continue each mode of illustration until all the pupils understand it; but also take care to change the form of your illustrations of each fact before the pupils tire of it.

I have prepared other apparatus for illustrating the primary and secondary colors. This is much more difficult to procure, and more expensive than the materials already named; and it will not enable you to represent the facts about mixing colors so clearly as you may by means of the more simple materials. My chief object in showing this apparatus now is that I may illustrate some additional facts about color which are worth

knowing, although you may not find them appropriate as matter of instruction for the classes now under your care.

You observe that I have on my desk circular discs, each about six inches in diameter, made of very thin boards. Each disc is fastened at one end of an axle, or shaft, which is fitted in two upright standards, so that it can be made to revolve rapidly. On the disc which I now hold you can see *red* and *yellow*, in the form of sectors of nearly equal size, arranged so that each color alternates with the other. Now, by pulling this cord, which is wound around the shaft, the disc is made to revolve rapidly, as you see, and the two colors are so blended by the motion that you can distinguish neither the primary *red* nor *yellow*, but in the place of these you see *orange*, a secondary color.

On another disc I have painted, in sectors, *red* and *blue*, with the blue sectors covering about two thirds of the disc, and the red, one third. By revolving this disc rapidly, these two colors, *red* and *blue*, blend together, and you see in their place only one color, a *purple*, which is another secondary.

I also have a third disc, on which I have painted sectors of *yellow* and *blue*, in the proportion of two blue sectors to one yellow one. Now, from what you have already observed, as I made the discs revolve which contained other colors, you naturally expect to see a *green* when I cause this disc to revolve. Please now observe the result: You see on this revolving disc neither blue, yellow, nor green, but a kind of drab. You have previously seen me *mix* the *yellow* and *blue* paints and produce a *green* thereby; but you now see that these same colors will not produce a green by revolving them on a disc. Varied and numerous experiments have been made in attempts to produce *green* by combining rays of light, but without success; hence some scientists tell us that green is not a secondary color. But so far as pertains to the common experiences of daily life, *green* may be regarded as a secondary color; for it is true, as you have seen, that *green* can be produced by *mixing yellow* and *blue* paints.

It is not my intention to give you a complete course of lessons on the various shades, hues, and tints of colors, as you can easily find the desired information in the usual books for

instruction in object-lessons. I shall therefore add but a few hints relative to other colors.

Each color may be changed in hue by adding a little of some other color to it; as, a little blue added to carmine changes it to crimson; a little yellow added to carmine changes it to scarlet. Mixing white with crimson produces pink; mixing white with purple will produce a lilac. Mixing orange and green will produce *citrine*—a dark greenish yellow. Mixing orange and purple will produce *russet*—a yellowish brown.

HARMONY OF COLORS.

In order to understand harmony of colors, we must remember the general law which governs it—namely, that *there must be grouped together the three primary colors.* If two of the primaries be present in a secondary, as in *orange*, the remaining primary, which is *blue*, must be placed with the orange to produce harmony. The reason for this will appear evident when we consider that *light*, which is composed of the primary colors, is more agreeable to the eye than any single color. When either red or blue is looked at for some time, it produces an uneasy sensation in the eye. To soothe this organ, there is need of the presence of such other color or colors as would produce a light-like color if combined with the one already present. Suppose the color observed be *green* (which is composed of *yellow* and *blue*), we must place with the green the remaining primary color, *red*, to produce an agreeable sensation in the eye.

A color added to another color, to complete the primary group, is complementary to the color to which it is thus added. Yellow is complementary to purple. Red is complementary to green. Blue is complementary to orange. Yellow and blue would form the complement to red. Red and yellow would form the complement to blue, etc. *Colors that are complementary of each other harmonize.* Hence, to determine whether a color will harmonize with another, we must decide whether it is complementary of that color. Thus you may understand that what is called harmony of colors, is based on something more permanent than fashion or mere taste—that true harmony in colors cannot be changed by fashion.

Harmony of colors may be properly classed with useful

knowledge, since it enters into works of art, decorations of dwellings, the selection and arrangement of materials of dress, and into various matters of daily life. It is both useful and interesting as a matter of instruction. But to be most useful, the instruction should consist more of exercises for training the pupils to discriminate *when* the colors harmonize, than of the mere memory of facts as to *which* colors do appear well together. These lessons will be more generally useful to girls than to boys; and girls will doubtless take most interest in them.

It now remains for me to tell you how lessons in harmony of colors may be given.

Procure colored papers, or silks of different shades, as dark and light red, yellow, green, blue, orange, purple, brown, gray, etc. Cut from each color squares of two sizes—three inches and two inches. Place a two-inch *red* square on a three-inch *green* one, and a two-inch *green* square on a three-inch *red* one. Attach one edge of the smaller square to the larger one, with gum, so as to allow the color of the larger square to show around the smaller one. Arrange squares of *yellow* and *purple*, *blue* and *orange*, *dark red* and *gray*, *pale green* and *violet*, in the same way. Show these pairs of colors to the pupils, and request them to notice whether the colors thus placed together look well or give a pleasant sensation to the eye. Request the pupils to select from the group of colors thus shown those that please them best. Next call pupils to select from the separate colors those that they think will look well together, and arrange them in similar pairs; also request the pupils to notice whether the two colors that look well are both primaries, or one a primary and the other a secondary.

After two or three lessons for observing colors that look well together, arrange another set of colored squares, as follows: *Red* and *orange*, *yellow* and *orange*, *blue* and *green*, *yellow* and *green*, *blue* and *purple*, *red* and *purple*. Show this group of colors to the pupils and request them to decide whether these look as well as those of the other group. Then place a square of *red* and *green*, and one of *red* and *orange*, before the pupils, and let them tell which appears better. Make similar comparisons with other colors, so as to afford abundant exercise in discriminating colors that harmonize from those that do not.

Give a lesson in which special attention shall be called to the fact that when primary colors harmonize with secondaries, the primary used is not either of those that produce the secondary with which it harmonizes. Make the pupils familiar with this fact by requiring them to select primary colors to harmonize with secondaries which you show them; also by requiring them to select secondary colors to harmonize with primaries which you show them. Now tell the pupils, *When selecting colors to harmonize, you must choose those which contain the three primary colors, in some of their shades.*

By placing each of the colors on white paper or muslin, the pupils may be led to observe that when deep colors are placed with white, the colors become stronger or more brilliant. In the same manner they may be shown that these colors appear less brilliant and lighter when placed on black than they do when alone.

Boys may be interested by telling them that red flags are signals of danger, white flags signals of safety, green ones of caution. Both boys and girls will be interested in learning that *red* is an emblem of *war; blue* an emblem of *faith; green* an emblem of *hope; purple* an emblem of *royalty; white* an emblem of *purity.*

During all the lessons on harmony of color, as well as in the previous lessons, you should bear in mind that your chief purpose is to train the pupils to distinguish the differences, resemblances, and relations of color, and that you can succeed in doing this only by exercises that will cause the pupils to use their own powers of observation.—*New York Journal of Education.*

GRADATION AND CLASSIFICATION.

[Concluded from April No.]

Thus far theory is presented. Can a practical application of the theory be made successful?

Recurring to the illustration of the closely graded school, with its partitions and bolted doors, I will make but a single alteration, and that should consist in keeping the doors opened.

In each room is found a teacher of whom certain results are required in the pursuit of methods which are of her own adoption. Among the smaller pupils there are several classes in each room. Through these classes and through the open doors there is a constant stream of the brighter pupils, or those more favored by home influences, moving steadily on ward. The intervals between classes, and between the highest class of one room and the lowest class of the next room, are short and easily passed. At different stages in the course of the stream it possesses different volume, sometimes embracing within its limits whole classes, at other times narrowed to a few who move more rapidly. Some drift into the eddies, but by a little special effort on the part of the teacher, they are brought finally into the current. At seasons of flood, when unwonted pressure is felt upon the stream, the banks may be overflowed, and some are left in pools to stagnate, unless special attention be given to the cutting of channels for their release. The freer the flow of the stream the less danger of stagnation.

To drop the figure—the pupils who are capable of more rapid advancement than their classmates, pass into the next class above, and by so doing, awaken the ambition of those whom they have overtaken, so that they carry with them, into the next class, some who might otherwise have remained sluggish till their course was completed. The places they have left are filled by the brighter element of the class below. By the transfer of the better pupils, those remaining find themselves in advance of those who have been transferred to their ranks, and they may feel the influence of that spirit which has brought to their class the better part of the class below. A practical difficulty is suggested in the case of rooms so filled that room cannot be found for the transfer from below. This difficulty is easily solved by permitting the teacher to anticipate the work of the next grade. Her pupils thus move forward in studies though not in rooms. As soon as the way is opened, the pupils pass over the classes whose work they have anticipated, and are not at all delayed in the general course Indeed, this apparent delay may prove a means of more rapid advancement, in that it affords the teacher a little variety in her work, and incites her to compare results with the teacher

next above her. Instances are not at all rare in which teachers of lower rooms have carried their pupils entirely beyond those of the next room above. Since this remark brings me to a consideration of our own work under a graded system, I may be pardoned for saying that in the main, our own schools are an illustration of what is sketched above. To those who wonder how we can promote by classes or by grades, at any time in the year, and without regard to promotions in grades above, it is sufficient to say, that our room limits have no relation whatever to grade limits. The pressure for room is always from below, while withdrawals from school are almost invariably from above. Thus, frequent opportunity is given for transfer upward; but it is not at all essential to promotion from grade to grade that such opportunity for transfer be available. It sometimes occurs that the teacher of a room carries her pupils through two grades before an opportunity for transfer comes. Sometimes the pressure from below for vacant space above, takes away the pupils of a teacher before half the work of a grade is completed. Transfers from room to room are made when vacancies occur — promotions from grade to grade in study, are made when the pupils have completed the work of their grade. And right here comes the criticism: "This course must involve a frequent change of teachers." In exceptional cases it is true, but the exceptions are found in the lowest grades from which pupils are passed upward to make room for the crowd of applicants below. Even in these cases the chances are about equal, that the transfer will be from a poorer to a better teacher, and in cases where equal ability exists, the feeling on the part of the child that he is promoted, is an incentive to greater effort. But in the main, change of teachers under this flexible system is no more frequent than under the system of uniform time for promotion, with a single exception to be noticed hereafter. The time required to pass through any grade, is for the average pupil a constant quantity—six months, eight months, or ten months. The time the pupil spends with the teacher is the same, whether the grade be entered in September, or November, or March. The time of promotion has nothing whatever to do with the length of time the pupil remains under the same teacher. In the course of eight years, about the average time

required to complete our Primary and Grammar Courses, ten changes of teachers are probable. The number of changes is the same, whether the changes be made at the beginning, in the middle, or at any other time of the school year. In the extreme case of annual promotion, changes are made as often as promotion occurs, which is once each year, and at a fixed time. No provision is made for exceptionally bright classes, or exceptionally excellent teachers, making it possible to pass a grade in less than the prescribed time. Right here the flexible system has decided advantage, and this is the exception alluded to above. Many instances have occurred in our schools of the passing whole classes through two grades in the time allotted to the completion of one. Many individual instances may be cited of pupils who have completed three grades in the time allotted to one—without injury to themselves, and with profit to the classes through which they have passed. Within the limits of a course of study requiring eight years for its completion by the average pupil, we have twenty-eight classes varying in distance from one month or two months in the very lowest grades, to three months or five months in the highest grades. Pupils failing in promotion when examined with the highest class in a grade, fall back in their course but a little time, since the class into which they drop is but a short time in the rear. With the knowledge of this fact before the examiner, he is not tempted to put forward those poorly prepared as he might in sympathy do, if the interval was a year or even six months. The good of the individual pupil may be best subserved by a little more thorough preparation. The discouragement to those who fail is far less when the hope of another trial is not long deferred. A pupil absent for a month or two on account of sickness finds a class at the point reached by his class at the time of his leaving. He is not subjected to the mortification of going back several months in his work, nor under the necessity of overtasking his strength that he may make up lost studies. The steps from class to class are so easily taken that many pupils are encouraged to try for more rapid advancement than they would think of attempting if the work of six months or a year must be anticipated. The advantages of gradation and classification are too apparent to need further discussion—and such flexibility as prevails in our sys-

tem, and the system of St. Louis, which is nearly allied to ours, certainly reduces to a minimum the danger of injury to individual pupils.

There are a few cases that call for discretion in administration of even the most flexible system. Occasionally a class of disheartened ones settles down into sheer indifference or despair. Such a class should be broken up and its members distributed to other classes. A very few pupils are found of defective intellect. To such, no harm can accrue if they are passed with the class into which they fell upon entering, without the formality of examination. At least a pretended examination will suffice. Others are found of advanced years and limited opportunities, who can spend but part of a year in study. Such are admitted without registry, and no record is kept of their class standing. They recite with such classes as they prefer, and spend the whole or part of the day in school as they may choose. To those, who, by reason of feeble health, are unable to take the full course, permits are issued upon physicians' certificates for half-time study. These cases seem to cover all exceptions that need to be provided for, and they are very rare.—*J. L. Pickard, in Western Journal of Education.*

THE THREE D'S.

If setting forth the qualities of the teacher would but secure their possession, the Golden Age would burst upon the school world without delay. Such an array of talents, acquirements, and virtues, as it is the fashion to press upon the attention of this somewhat conglomerate class, is wonderful to think of. We are inclined to think it not less mischievous than wonderful. An extreme standard can only be endured by the few; it is depressing to many; it simply demoralizes the mass. It is only the highly-gifted and heroic soul that is capable of a "forlorn-hope" struggle, that can find stimulus and strength in slow approaches to an unattainable ideal. Hence, we believe that here the majority of our teachers remain in utter indifference, and not a few are driven to despair. Such excellence they dare not hope to reach.

Now, for our own part, we should be content with the teacher's possession of these qualities: *docility*, *discrimination* and *decision*. These are enough for most teachers to think of at once. They cover ground enough. They are representative qualities. They, more than all others, are prophetic of success; and may be hopefully cultivated. All may not become eminent for them; but every one may attain some proper excellence in each, and all are bound to make the effort. Each touches vitally some common and necessary duty of the teacher.

For example, *docility*, teachableness, aptness to learn—it is fundamental. The teacher without quick, shrewd, varied, vigorous *growth* in knowledge, both technical and practical, is weighed and found wanting at the outset. There is vastly more in this capacity to grow in knowledge daily, learning alike from books and things, searching for truth on every side, and accepting from every source with like grace and heartiness—vastly more than there can be in any amount of hoarded scholarship. This last must be, to some extent, dead or inapplicable. Not so with knowledge gained from docile, daily growth. Gained under the most practical conditions, it must be living and adapted. With its constant and clear-sighted advance, there is also little room for pedagogical self-conceit and stereotyped monotony, the two worst foes of the school-room.

As to *discrimination*, it is not less important. The bane of many systems is a blind, rigid, procrustean method. How many, how varied, how subtle are the occasions in the school commonwealth for drawing the line sharply between this and that! How blind, how blundering, how iniquitous must be the instruction and the discipline of the school-room without such discrimination! Indeed, we might say that discrimination is the consummate flower of docility. In this, he who is ever growing practically wise, wisely applies the results of this intelligent growth. In it is the very soul of fitness and force. After the fashion of the old adage, "No church without a bishop," we may say, *no teacher without discrimination*. It would be Hamlet with Hamlet left out.

Decision is vital to both. Without decision, no teacher will faithfully follow the path of daily growth as marked out by

docility; no teacher will effectively carry out the mandates of his own discrimination. As they enlighten and direct decision, it re-enforces and perfects them. A want of decision is, in one sense, worse than the want of the other qualities. It is not so much lacking to the teacher as so much wanting to the man.

Now these three cardinal D's, we believe, contain more of the substance of the qualifications of the true teacher than all others in the common categories.

We commend them to every teacher as practical and practicable. And we commend them not less to those who discourse upon teaching. For the profound scholar, exhaustiveness is well; but for the most of our teachers, the simply practical is all that is possible. There are some themes in education that are apt to be overdone. The qualifications of the teacher is one of them.—*The New-England.*

NARCOTICS OF THE SCHOOL ROOM.

Many teachers possessing lively, active, wide-awake minds, frequently introduce a soporific element into their recitations, whose influence is seldom perceived, because seldom made a subject of careful observation. Notwithstanding the generally admitted fact, that pupils are often usefully inspired by the wit and humor of the teacher—are sometimes aroused from lethargy by the teacher's playful verbiage—it must be conceded that excess in this direction, or a close approximation to it, is extremely prejudicial to the sustained intellectual exertions of teachers and pupils essential to the highest usefulness of the recitation. A cheerful and pleasurable vivacity should always accompany the acquirement of knowledge and the processes of instruction. But pupils cannot too early learn that the mind must find its chief pleasure in its own energetic activity in readily apprehending truth as presented in the various exercises of the school. The occasional introduction of mirth-provoking fact or fancy cannot but be commended. But unless the teacher strenuously resists the temptation to minister to

the mirth-loving propensities of his pupils to an unreasonable extent, a future examination may produce a painful consciousness of the important fact, that entertainment is not necessarily instruction—that the liveliest play of the sensibilities may often repress vigorous intellectual action—that those who apparently most enjoy the recitation are not always the pupils who derive the greatest benefit from it.

The exertion of bodily power by the young in sound health is always productive of intense pleasure. Why should not the vigorous exercise of the intellectual faculties be equally conducive to happiness? When pupils have reached the higher grades of the public school system, why do they frequently manifest so great an aversion to earnest thought? Why may the stereotyped "I don't know" be so confidently expected in answer to many questions which, though not directly stated by the text book, are directly suggested by the lesson which the pupil asserts he has carefully prepared? There must be a reason for this general unwillingness to think on the part of the more advanced pupils, for which the teachers of lower grades may not be wholly irresponsible. As a new game, necessitating new forms of muscular action, is hailed with delight by boys and girls, so new questions, requiring new forms of thought, or the exercise of faculties usually dormant during the hour of study at home or school, should develop something of that intensity of pleasure which characterizes the varied activities of the playground and field. In the properly conducted class exercises of young pupils, activity of thought in answering general questions more or less familiar, is a source of almost unbounded gratification. So intense, indeed, are the pleasures of thought developed by the skillful teacher, that restraint often becomes necessary for the preservation of good order. But in the higher classes it too frequently happens that an original question from the active mind of the teacher or intelligent visitor speedily suppresses mental action, and diffuses through the class an intellectual calm as intolerable to the teacher as the calms of Capricorn and Cancer to the sailor. That some narcotic influences have mingled with the methods of instruction to which such pupils have been accustomed, there can scarcely be a doubt.

There is a mode of instruction frequently practiced, and pos-

sessing, undoubtedly, much merit when properly used in appropriate circumstances, which, nevertheless, must be considered narcotic in respect to its effects on individual minds. The simultaneous recitation of masses of pupils, necessitated by the adoption of the lecture or concert methods of instruction, though possessing a peculiar charm for teachers, because apparently free from the mental stupor and numerous failures characteristic of individual recitation, is, in reality, soporific in its tendency, and subversive of that independence of thought which must be cultivated in the child if possessed by the man or woman. No recitation should be considered complete, until every member of the class has independently performed a definite amount of work.

There is no influence emanating from the teacher during recitation which so completely paralyzes the mind of the pupil as the practice of scolding or ceaseless fault-finding, once so prevalent, but now rapidly disappearing from the public schools. The temptations to petulance and snappishness on the part of the teacher are manifold, and, at times, almost irresistible. Lack of faithful preparation, of quick perception, of moderate reasoning power, of interest, of enthusiasm, of uninterrupted attention, of just appreciation of the objects and advantages of recitation, are causes of irritation to be found in almost all classes. Those who possess but little love of the work of education, who regard neither the present happiness of children, nor the future welfare of individuals and States; who, in short, work in the educational vineyard exclusively for dollars and cents, or because more congenial fields of labor are not immediately accessible to them, are peculiarly liable to infuse this kind of narcotic influence into all the intellectual exercises of the school. Sometimes the most conscientious teacher, through excessive anxiety or impatience, resulting from the slow or otherwise unsatisfactory progress of those whom they most earnestly desire to benefit, relapse almost unconsciously into habits of peevishness which largely nullify their most indefatigable exertions. Whatever may be the cause of a teacher's recurring seasons of irritability, the briefest reflection, when free from the harassing cares inseparable from the instruction of children will show that no mental state

should be more strenuously resisted, more completely suppressed.

The popular outcry against overwork in the public schools, has, to a great extent, subsided. Its subsidence may in part be due to the illusory character of the foundation on which it was built. While in perfect agreement with the majority of teachers that the useful work imposed by schools has not been and is not now excessive, there is reason to apprehend that numerous forms or kinds of useless and stupefying mental labor have existed, and do still exist. In the general desire to push children through the grades as speedily as possible, the evil of overwork may originate, and it may exist in our schools unperceived by the most considerate teachers. In whatever form it may appear, it is a powerful narcotic, which should be reduced to the smallest possible dimensions.

If we may rely on the generally concurrent testimony of teachers in upper schools, concerning the mental deficiencies of pupils who come under their charge from the lower grades, we may infer the existence of narcotic influences either in the work which they do, or in the prevalent modes of doing it. The annual examination for admission to the high school apparently shows that the great majority of applicants are amply qualified to enter successfully upon a higher course of study. But an experience of a few weeks or months discloses the unwelcome fact that, however well grounded in the memory of facts and principles many successful candidates may have been at the time of their graduation from the grammar school, their inability to reason with tolerable accuracy soon reduces them to a low level of scholarship, favors, and often induces, an early withdrawal from school, and the relinquishment of the usual means of obtaining a higher education. If it can be clearly shown that results so hostile to the welfare of the State as well as of the individual, can be justly attributed to the non-disciplinary effects of things taught, and the methods of teaching them, in the lower grades of our public schools, none should be so earnest in their efforts to eradicate such evils as teachers who may be largely responsible for their existence.

No teacher will refuse to admit the great importance of making the school room a place of pleasant, as well as profitable, intellectual labor; but hard, earnest, resolute work should

be the distinguishing characteristic of every public school. So far as a pleasurable state of mind promotes active industry, so far may all reasonable means be employed to produce such a state. "Hearts that in their labor sing," are as desirable in the school room as in the avocations of the outside world. At this point teachers are prone to make a great mistake in their efforts to encourage that spirit of cheerfulness most compatible with efficient mental labor. In consequence of the natural tendency of youth to frivolity, the slightest provocation is often sufficient to dissipate sober thought and beget a spirit of levity, wholly inconsistent with the mental discipline which it should be the purpose of school operations to secure. In circumstances most favorable it is extremely difficult to secure such concentration of thought upon any subject as is necessary to produce satisfactory results. If the purpose of common school education is to be accomplished otherwise than in the most superficial and useless manner, earnest work, and not subdued and decorous play, should rule the hour.

Much has been said concerning the necessity of perfect sympathy between teacher and pupil. There is, perhaps, in many cases no greater incentive to exertion than the consciousness that those with whom we are associated are in hearty sympathy with our labors. The minds of children respond promptly to the influences emanating from superior minds. The most careless observer knows that a word, a look, or any other sign of recognition of approval of right effort from the teacher, often energizes the minds of scholars, and leads to the accomplishment of most desirable results. The withholding of sympathy, on the contrary, acts as a most powerful narcotic, rendering the action of the mind sluggish and inaccurate. Oppressed by the cares of his office, the young teacher is peculiarly liable to diffuse this kind of narcotic influence through the atmosphere of the school. Aiming at the noblest results, working, it may be, with tireless brain and unlimited enthusiasm, he forgets, at times, the natural slowness of substantial mental growth, and stupefies the mind into which he would gladly infuse the force of his own spirit.

In the government of a school many processes essentially narcotic may often be observed. The discipline of large groups of children is fraught with many perplexities well fitted to lead

the teacher into grave errors respecting the use of his tongue. No spectacle can be more painful to a lover of order quietly maintained, than that presented by a division of pupils nominally governed by an excessively talkative teacher. Though command follows command, and threat succeeds threat, with astonishing rapidity, the insensibility of the pupils is complete, and disorder reigns supreme.

In school government another source of narcotic influence may be found in the administration of reproof. There may be occasions when reprimand, publicly administered, may most effectually accomplish its purpose; in most cases private admonition will be found much less effectual in blunting the sensibilities of offenders, and far more effectual in accomplishing the results intended by all just and reasonable government.

The infliction of punishment by wholesale—a method not unfrequently resorted to by teachers of little experience—is, in a certain sense, a narcotic whose influence it is necessary to avoid, if teachers would foster in the minds of the young that sense of propriety and justice which should characterize the whole range of social life in subsequent years. There is an element of timidity in this mode of punishment, which subjects the teacher to the double loss of forfeiting the respect and esteem of all honorable pupils, and of incurring the contempt of those whose conduct he would reform, but whom he fears to offend by pointed, specific, discriminating rebuke.

In the government of pupils much may be accomplished in the correction of errors, particularly those inadvertently committed, of which the number is much greater than is commonly supposed, by the use of a language quite as significant as that of articulate sounds, and in multitudes of cases equally efficient. The language of visible signs should be much more extensively used in the school room than it usually is. The frequent use of this method of communication by the teacher removes one of the most powerful and objectionable narcotics, and reduces to a minimum a prime cause of physical exhaustion and nervous irritability. This fact alone should lead to its employment in all cases in which its use would not be incompatible with the forms of politeness and courtesy which should characterize school, as well as the best circles of social life.—E. C. DELANO, *in Nat. Teachers' Monthly.*

THE NATURE OF PLAY.

ITS IMPORTANCE AS A MEANS OF EDUCATION.

While the influence of play or games upon the early development of children is generally admitted, teachers do not attach enough importance to this excellent means for their pupils' intellectual and moral improvement in the subsequent periods of life. Yet to the observing eye the individuality of the child reveals itself more freely and naturally in play than during the hours of instruction. An essay by F. E. Bencke contains many excellent remarks concerning the specific character of play and its value as a means of education, and it is my intention to dwell more minutely upon several of the distinguished author's suggestions.

While at work, the child's physical and mental faculties are directed towards a fixed object; but when playing, the action of his forces is dependent upon certain mental qualities and inclinations. This distinction, however, does not admit of general application; for children will frequently pursue a specific object in their plays, and while so doing exhibit a strong and perseverent activity of will. Hence we find work sometimes indicated and sometimes prepared for in play.

PERCEPTION—IMAGINATION—PHYSICAL EXERCISE.

A certain kind of games leads to an improvement of the perceptive faculties. The child moves objects, places them in different positions, drops the stone, rolls the ball; he plucks the flower and tears the butterfly to pieces, not yet realizing that he hurts the insect. Here we meet with the first really *experimental* efforts of the child, which, inasmuch as they require self activity and analysis, are of higher importance for his development than mere observation of objects.

Another kind of play excites the activity of the imagination —the little girl's motherly care for her doll, and the boy's heroic exploits on his hobby-horse, as well as the narrations and the invention of stories, referring either to the real life of the child or to the deeds of mythical and historical persons. As in the case of the fine arts, this class of plays will differ not

only with the individual peculiarity of the creative imagination, but also with the means employed in the production of its objects, and thus exhibits an exclusively poetical tendency.

The third class consists of those games in which physical exercise forms the chief factor, such as running, playing ball, throwing quoits, etc. It does not, however, exclude the elements of the first two classes, and admits of intellectual and moral motives, such as expectation, persistency in the pursuance of a certain object, and invention of means to overcome obstacles.

THE OBJECT IN PLAY.

In the appreciation of plays, especially those of the second class, which are more independent of external circumstances and causes, and consequently reveal more freely the individuality of those engaged in them, the examination of *what* the child produces, or reproduces, appears to be the chief point. Does he [illegible] beautiful objects of nature, of social costumes, [illegible] of remarkable incidents? Does he exhibit peculiarities of the intellect, [illegible] of the heart, or directions of the will? Does he rise to higher spheres, or descend to the imitation of animals? Such and other investigations will enable us to find the proper basis for future operations. As they frequently indicate the germs of faculties and propensities, plays are said to be suggestive of the subsequent life. But, equally often, they may become the cause of it, or appear as the primary results of such circumstances as will direct the development of the young man into a certain channel. Imitating the occupation of his father or of those persons who arise most prominently on the horizon of his observation, a predilection for a certain activity is created in the young mind, which may lead to its adoption in future years.

GAMES SHOW PROPENSITIES.

The probability of our expectations based upon the early plays of a child being realized, depends partly upon the intensity with which he engages in his pursuit, and partly upon his share in the invention and the arrangement thereof. We should, therefore, ascertain whether the attention be directed to the

external and accidental, or to the internal and essential forms of an activity. The boy who builds a pulpit of chairs and delivers sermons, with his mother's apron as a cassock on his shoulders, is not for that reason destined to become a pulpit-orator. He utters nothing perhaps from his high position but inarticulate sounds, and it was only the elevated platform and the black garb that led him to imitate the preacher. But if, in addressing his playmates, or an imaginary congregation, the boy really relate or invent a tale, or discuss some point, then the childish discussion may be indicative of a future vocation. The fact that we find the peculiar propensities of nations represented in the games of their youth, verifies the previous remarks. Cyrus and Semiramis, when children, are both said to have played that they were Asiatic despots. The games of the Spartan boys referred to war and martial exercise; those of the Athenians to rhetorical combats and artistic activity. The boys of Rome favored games in which one of their companions was elected judge. The youth of Portugal delights in playing confessions and mass, while the A b e d arian of our country, with the greatest composure, risks a million in the most hazardous bet. Taking these points into consideration, it is obvious that we find the predominant inclinations and peculiarities of temper, etc., indicated in the plays of children. Hence, a careful observation of the pupil during his hours of recreation and play becomes a duty for the conscientious educator, and will furnish him a clue to many psychological problems, the solving of which he has attempted in vain during the hours of instruction.

MATERIALS FOR PLAYS.

Originating in the child's desire for an agreeable excitement, any arbitrary interference on the part of the educator would disturb the play and thereby necessarily awaken a feeling of displeasure, which would neutralize its very best effects. The interference of the teacher is, therefore, justifiable only in certain cases. If the plays are deficient in life and inciting elements, he may attempt to introduce such, and will accomplish this purpose most successfully by bringing the influence of lively and energetic companions to bear upon the slow and indifferent. The same liberty should be granted with regard

to the intellectual combinations of games. It is therefore not advisable to give children elaborately finished and minutely executed playthings. The imagination being extremely fresh and fertile at this period, the child neither desires nor needs a definitely laid out plan for the accomplishment of his designs. The little boy parades upon his father's walking-stick as proudly as upon the costliest hobby-horse, and the tender-hearted girl loves and caresses a dilapidated boot-jack just as much as a new and precious doll. That plaything which is least definite in its form and limited in its application will prove best adapted to the child's intellectual development. Jean Paul recommends clean sand as an excellent means for the proper amusement of young children. That substance, assuming the most homogeneous forms and properties in the imagination, is regarded as "building material, as projectile, as a cascade, water for washing, seed, flour, as inlaid work, and raised work, as a ground for writ[illegible] and painting." Hence a box with [illegible] is preferable to the most beautiful representation of [illegible], since the latter, after a close examination, preserves its features and offers no new points or perception to the mind: while the former admits numerous variations and combinations, which may become even more complicated and original, and thus keep pace with the growing intellect.

THE TEACHER'S AID.

It is the educator's principal task to select for the child such material as will furnish him with the intellectual basis for his plays. Judicious assistance in this direction will produce results of vast importance. The pupil's attention may be directed to pictures of natural objects, or to representations of actions, either drawn upon paper or related in the form of fables and tales. Rousseau, in his "Emilie," decidedly objects to the application of the latter, maintaining that they might be employed with propriety in teaching grown people, but not in the instruction of children. He is of the opinion that the immature mind is neither desirous nor capable of receiving ideas under a practical disguise, but requires "the pure and naked truth;" and he contends, furthermore, that the introduction of fables, acquainting the pupils with a false and unreal world, would sow the seeds of future prejudices and errors, and in

many cases tend rather to enervate than to strengthen the moral sentiment. Notwithstanding this great author's serious charges, we expect the most beneficial results from a wise and economical application of the means indicated above. It would be a strange phenomenon indeed, if that which was peculiar to the childhood of mankind, and is emanating from the mind of every intellectually active child to the present day, were not suitable for children in general. A proper understanding of higher intellectual and moral ideas can not be attained during the earlier period of life, and the imparting of the "naked truth" at that period would prove an absolute impossibility. Such a clear comprehension is not even aimed at, and the educator can only attempt to give pictures of an ideal world. The reception of those pictures forms the preparatory process for the acquisition of the general truths which the mature mind deduces, through philosophical investigation, from the phenomena of nature or the history of man. Living in a world in which the ideal and the real, the intellectual and the sensual are blended, the child looks upon the practical figures of the fable and the legend as "related and applied" to him; and sympathizing warmly with their experiences, their joys and sorrows, noble emotions well up within him, which will tend to purify and elevate his whole moral nature. In addition, we may say that Rousseau's apprehensions are not corroborated by history; for all the great teachers of mankind have availed themselves of this method of conveying truth to the masses.

LIMITS OF PLAY.

With reference to the limitations of play, it is necessary to discriminate between such games as prepare for the earnest pursuit of life and require the exertion of physical or mental force, and such as tend exclusively to the production of agreeable sensations. Considering the former, the child's superfluous strength is consumed in them, and with the relaxation of energy ceases the desire for recreation. If, on the other hand, the feeling of pleasure, either by means of joyful sensations and perceptions, or by means of physical excitement without the necessary intensity and a definite purpose, be the chief object of the play, the determination of the proper limit is beyond the child's power. Hence it becomes the educator's

duty to interfere at the right moment, and to train the child to habits of moderation in the enjoyment of pleasure, as well as ready submission of the physical desire to the dictates of reason. Parents who give a great variety of expensive playthings to their children, easily create a spirit of weakly indolence and insatiable greediness. As indicated before, the boy does not appreciate the arrow in proportion to its costliness, but in proportion to the pains he has taken in selecting, smoothing, and ornamenting the rude material of which he has made it. This peculiarity, involving intellectual exertion and personal activity on the part of the child, constitutes the developing agency of games. The play of older children should partake of the character of labor, and form a gradual transition from the former to the latter, as, for instance, the cultivation of a little plot in the garden, the use of tools in manufacturing various articles, and, above all, the collecting, classifying and preserving of minerals, flowers, and insects. Aside from the valuable knowledge acquired by means of such amusements, a great deal of energy hitherto wasted in rude or trivial discussions would be bestowed upon noble and worthy objects. The youth would not only find recreation and regain physical and mental elasticity, but also by means of intimate intercourse with nature lay the foundation of a habit which would accompany him to manhood, and prove the source of pure joys and refreshing and elevating emotions.

CHANGE IN RECREATION.

The appetite for variety in plays and the occupation just referred to, may be satisfied, as long as it does not manifest itself too often and too intensely. Having discovered and cultivated all the points of relation between the object and himself, the child enjoys a feeling of satisfaction, and is inclined to dispense with the plaything. But the developing influence of a few days upon the mind is sometimes so vast that the child not only looks with different eyes upon the same subject, but also perceives it in an entirely new and extended light. Hence if the desire for change becomes predominant and disturbs the reception and retention of cognitions, or degenerates into sickly whimsicality, the educator should attempt to lead the attention of the child gradually back to the object of

which he has grown tired. It is not advisable to adopt compulsory measures, as their application would tend to create an antipathy toward the very thing which it is desired should be the means of awakening new interest. The most successful method would consist in presenting the object as if by accident, from a new point of view, or in new relations. If, for instance, a boy, having played with a hollow rubber-ball for several weeks, and having observed the most prominent properties—its form, smoothness, elasticity, etc.—asks for another plaything, and the father drops the ball into a tub of water, or into a pond, the new phenomenon will excite the curiosity of the child. He will, by means of experiment, strengthen the results of his former impressions, and acquire a whole series of new perceptions. The first indistinct idea of the comparative weight of water and air will dawn upon his mind, and perhaps his imagination will people the ball with soldiers in the form of pins, and send it as a man-of-war for the exploration of unknown regions, or look upon it as an island, and exile an unfortunate Robinson Crusoe upon its sterile shore. I may state that the latter part of the preceding sentence is no simile, but based upon a notice which I found in the letters of Madame Genlis. Having at a previous time related the story of Robinson Crusoe to her boy, she found him one day engaged in playing and talking to himself at the side of a pond. He had a string fastened to a ball swimming on the water, and on the surface of the former she noticed two little figures, the one made of beeswax the other of pitch. When a violent pull at the string brought the wax figure under water, the boy exclaimed: "Save me, Friday; save me good friend; I am in danger of drowning!" And after the ball had regained its original position, he continued: "Now, Friday, we must build a canoe; the one which I constructed was carried away by the flood." In this manner the boy amused himself for hours with the plaything, his imagination carrying him through all the adventures of the exile on his desolate island.

Man is a social being. He is destined to live, to work, to suffer, and to enjoy with his fellow-men. With the dawn of consciousness the social instinct becomes manifest and remains active even to the decrepitude of old age. Education should

therefore aim to lay the foundation of such habits as will render the relation of the individual to the community at large and to a select circle of friends agreeable and useful. Children assemble in the school-room by the desire of their parents, and are subject to rules of discipline during the hours of instruction. But on the play-ground they follow the promptings of their own natures in the arrangement of games and the selection of their companions. We find here the proper opportunity for the development of those virtues which characterize the social intercourse of civilized men.

CULTIVATION OF SOCIAL VIRTUES.

The first condition of a successful organization of games consists in uniting the efforts of several for the attainment of a general purpose. The child must acknowledge and respect the rights of his equals, as well as learn to sacrifice peculiar notions and inclinations for the benefit of the majority. He experiences the world-wide conflict between egotism and sympathy with his kind. He learns not only to accomodate his disposition to that of others, and to suppress the momentary impulses of a rash temper, but also to rise from a state of indifference to a strengthening exertion of his faculties in an eager combat with his companions. The teacher's activity with regard to these mental processes should be limited to prevention of extravagance in any direction. A mild yet firm intervention will check the overbearing spirit of the imperious, and the waves of angry impetuosity will be calmed by kindness and patience, while an earnest appeal to his feelings of honor will prevent the weak and fickle from becoming subservient and cowardly; and an inciting word will kindle new zeal and courage in the heart of the timorous. In cases of obstinacy and quarrelsomeness, a separation from companions and an exclusion from their plays will prove an effective means of correcting the bad tendency. But the reproof should not be too severe; neither should the educator exhibit any passion in its administration, else he might change that which was at first mere petulance into obdurate contumacy, and drive the pupil to deception and hypocrisy. On the other hand, repeated seclusions will poison the child's natural hilarity, deaden his sympathies with his playmates, and fill his heart with malice

and hatred. Minute and definite rules for the treatment of isolated cases cannot be given, as the child's individuality and particular circumstances necessitate the adoption of peculiar measures.

NATURALNESS AND FREEDOM.

It is a well-known fact that the natural and social conditions under which the development of children in our country takes place result in an early maturity. Any attempt to restrain this rapid growth would prove detrimental to body and mind; but the tendency of certain classes of society to foster it artificially must be condemned as still more pernicious. In those circles it has become customary to regard the free and poetical language of childhood as sentimental nonsense, and to introduce in its stead an unmeaning social jargon. *Here* the most popular diversions, consisting chiefly in aping the amusements of grown people, deprive youth of its freshest and most delicate aroma, and utterly destroy its very vitality—the pure cheerfulness of the heart, which, in the words of Jean Paul, "is the heaven under which everything but poison thrives; it opens the child to the penetrating All, receives nature, not loveless and defenceless, but loving and armed, and lets all the young powers rise like morning beams, and play upon the world and upon itself; it is at once the ground and flower of virtue, and its crown." The stern reality of life lifts the veil from the mystery of childhood early enough, and only heartless ignorance seeks to bind the wings of the young imagination with the shackles of a prosy and dry etiquette. For the very reason that the all-pervading influence of commercial enterprise and the spirit of constitutional liberty favor an early maturity and require an intense exertion of our energies, rational education should furnish the youth a counterbalance and secure for him elasticity of body and cheerfulness of mind by providing for him a natural and spontaneous development under the serene sky of a playful childhood. For as our whole moral nature takes its root in domestic education, and as we owe the elements of solid knowledge to school instruction, so many an artist who has realized the idea of the beautiful in majestic buildings, or in sublime paintings, and many a poet, who has breathed the

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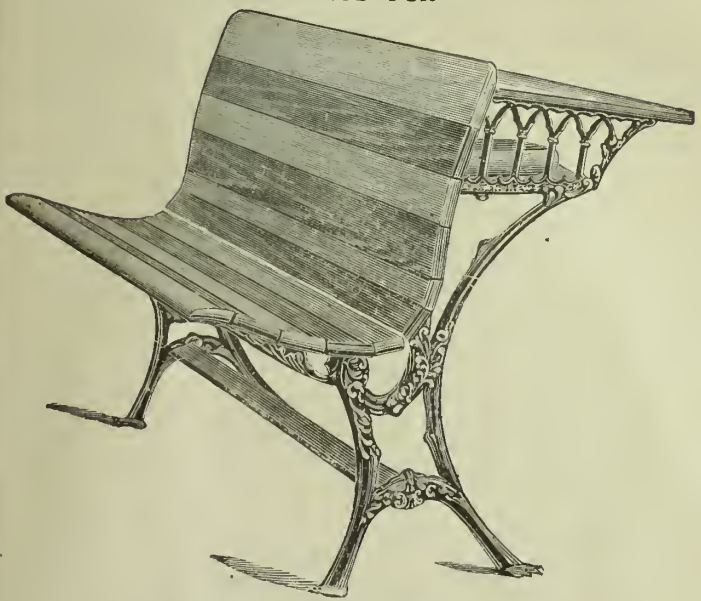

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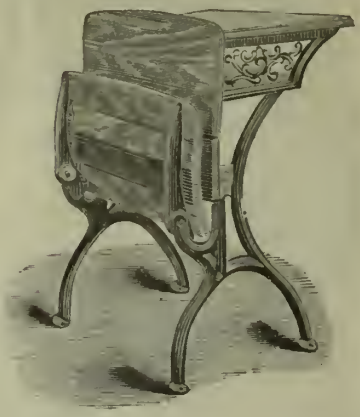

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